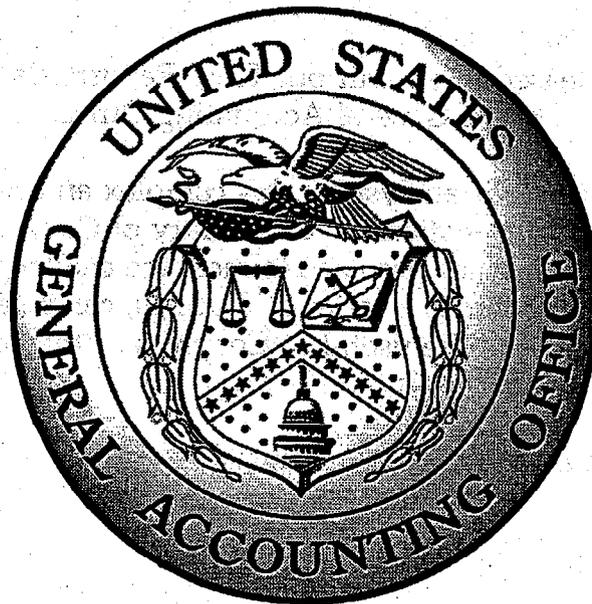


MANAGEMENT REVIEW OF
THE LIBRARY OF CONGRESS

FINAL REPORT

VOLUME 1



PREPARED FOR
THE GENERAL ACCOUNTING OFFICE
BY

BOOZ·ALLEN & HAMILTON

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MAY 7, 1996

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BOOZ·ALLEN & HAMILTON INC.

8283 GREENSBORO DRIVE • MCLEAN VIRGINIA 22102-3838 • TELEPHONE: (703) 902-5000 • FAX: (703) 902-3580

JOYCE C. DORIA
Vice President

May 7, 1996

Mr. J. William Gadsby
General Government Division
General Accounting Office
441 G Street, N.W., Room 3858
Washington, D.C. 20548

Dear Mr. Gadsby:

Booz·Allen is pleased to submit our Final Report, Management Review of the Library of Congress, to the General Accounting Office.

This report reflects our analysis of this complex and multifaceted institution. It provides information for the Library of Congress, its stakeholders, and its customers as the Library prepares to meet the challenges of the 21st century. In addition, it provides a series of findings, conclusions, and recommendations that should be useful to Congress as they debate the future mission of the Library of Congress.

The report is contained in two volumes:

VOLUME 1

- **Executive Summary** summarizes highlights of the report.
- Sections of the review include:
 - **Background**—Describes the background of the project and the scope of our effort.
 - **Overarching Issues**—Addresses issues of mission, management, workforce, and revenue opportunities that affect all areas being reviewed.
 - **Infrastructure**—Focuses on the areas of facilities, security, and technology usage.
 - **Human Resources**—Presents evaluation of the Library's human resources management.

Mr. J. William Gadsby
May 7, 1996
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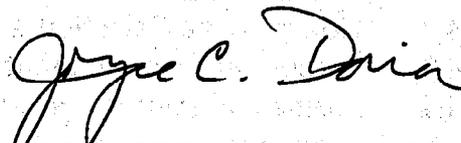
VOLUME 2

- **Case Studies**—Presents examples of various decision-making processes within the Library.
- **Comments from Library of Congress**—Letter dated April 26, 1996, to the General Accounting Office from the Acting Deputy Librarian of Congress.
- **Appendices**—Presents supporting documentation and analysis referenced in the body of the report.

We would like to take this opportunity to express our sincere appreciation to both the General Accounting Office and the Library of Congress for their close cooperation during the course of this study. We particularly appreciate the courtesy extended to us by Library staff as we operated within a very challenging schedule. The completion of this effort is in large part due to their candor and thoughtfulness. In addition, we found the insights of individuals in the library community across the nation invaluable as we assessed the Library's practices through the eyes of its customers and stakeholders.

It has been a pleasure working with you and your staff over the past several months. Thank you for the opportunity to work with the General Accounting Office on this important assignment.

Very truly yours,



BOOZ ALLEN & HAMILTON INC.

Joyce C. Doria

MANAGEMENT REVIEW OF THE LIBRARY OF CONGRESS

FINAL REPORT

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Letter dated April 26, 1996, to the General Accounting Office from the Acting Deputy Librarian of Congress.

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- Appendix B General Management Focus Groups Notes and Protocol
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EXECUTIVE SUMMARY

The Library of Congress is the world's largest library, directly serving the Congress, a broad national constituency of the American public and its libraries, and a worldwide research community. Originally established by Thomas Jefferson to support the legislature, the Library of Congress still adheres to the Jeffersonian concept of universality—that there was "... no subject to which a Member of Congress may not have occasion to refer."

The Library's legislative support role was strengthened in 1914 when the Legislative Reference Service, currently the Congressional Research Service (CRS), was established to provide research and the scientific use of information to solve problems and support policy decisions. Two Library innovations positioned it as a public leader in systematizing intellectual activity and knowledge development. In the early 1900s, the Library's classification and cataloging schemes and its printed catalog cards established bibliographic standards and encouraged cooperation among librarians and scholars nationally and internationally. In the 1960s, the Library created its Machine Readable Cataloging (MARC) format for converting, maintaining, and distributing bibliographic information that became the national standard in 1971 and the international standard in 1973.

The Library maintains its collections of classified books and pamphlets and special format, language, and subject materials in three large, historical facilities on Capitol Hill—the Jefferson, Adams, and Madison buildings—and various annexes in the Washington, D.C. area. With approximately 4,500 employees and an annual appropriation of approximately \$350 million, the Library has operations that are currently managed through an Executive Committee, Senior Management Reporting Group, and four major services or operations: Library Services, CRS, Copyright Office, and Law Library.

Legislated responsibilities range from collections acquisition, cataloging, preservation, and collections management to delivering products and services to a broad national and international constituency including Congress, libraries, publishers, scholars, the blind and physically handicapped, and a wide cross-section of the American public.

Each day, the Library receives more than 10,000 items of which about 7,000 (2.5 million a year) are added to the collections. Currently, the management of these sizable collections is challenging the Library's operational capabilities and resources, and is resulting in identified issues with cataloging arrears, security, facilities, and Library employees. These issues and approaches to addressing them have focused congressional attention on Library operations.

In August 1995, the Senate Appropriations Committee, in a letter to the Comptroller General for the General Accounting Office (GAO), requested that the GAO perform a management review and financial audit of the Library of Congress. In December 1995, the GAO contracted with Booz-Allen & Hamilton Inc. to conduct a management review of the Library to support Library FY 1997 congressional hearings. To complement this management review, GAO also contracted with Price Waterhouse to conduct a review of Library financial management.

Objectives and Scope

Booz-Allen was engaged to examine six major issue areas, principally through analysis of three major services of the Library. Exhibit 1 presents the focus of this management review.

EXHIBIT 1 Library of Congress Management Review Focus

Issue Areas	Services
General Management Human Resources Products, Services, and Fees Facilities Security Technology Usage	Collections Services Copyright Office Congressional Research Service

Overall objectives of this review were to assess current management operations of the Library and develop recommendations for performance improvements in general management, human resources, security, facilities, and technology usage. In the area of products, services and fees, the objective was to assess the revenue potential of charging fees that recover full cost in providing four specific services.

Methodology

The overall methodology consisted of six primary data collection and analysis approaches supplemented, where appropriate, by techniques specific to each issue area. The general data collection and analytical approaches included the following:

- Literature search and source reviews of more than 300 Library-related studies and documents including legislation and congressional testimony
- Interviews with more than 170 individuals
- Twenty seven focus groups with Library officials, congressional staff, and external groups
- Process reviews to baseline products and services

- Benchmarking visits to Federal agencies, university libraries, public libraries, and commercial clearinghouses
- Case study development to test management procedures in the following areas:
 - Arrearage Reduction
 - Competitive Selection Process
 - Collections Security
 - Fort Meade Storage Facility
 - National Digital Library.

Additionally, Booz·Allen is conducting a baseline employee survey of Library of Congress staff that will be completed shortly after this report.

OVERARCHING ISSUES

MISSION

The mission of the Library of Congress has been the topic of intermittent debate for nearly 200 years. There is no dispute that the Library was established to store "... such books as may be necessary for the use of Congress ..." that were purchased with a \$5,000 appropriation signed into law on April 24, 1800.¹

Various further functions have been assigned to the Library across the subsequent decades, some having little direct connection to its role as a congressional library. The Library's activities today encompass an ad hoc role as National Library and an international presence in developing its collections and addressing Library issues worldwide.

Findings and Conclusions

The Library operates under broad statutory authority. The statutory authority of the Library of Congress provides specific guidance for a number of programs. Throughout its 195-year history, the Library has been given responsibility and funding for a variety of new initiatives with specific authorities. A key contributor to further expansion of the Library's role was the 1897 legislation authorizing the Librarian of Congress to make rules and regulations for the Library. This authorization has provided the Librarian with the capability to initiate projects and programs that become individually funded through congressional appropriation and become permanent components of Library activities.

For the last century, the roles and mission of the Library have continued to expand both through Librarian initiatives and congressional legislation. This

¹ John Y. Cole, Jefferson's Legacy. A Brief History of the Library of Congress, 1993.

growth has been accompanied by an increasing range of products and services for its constituencies, the American public, and the international community, and has resulted in an extremely broad and expanding range of Library human, physical, technology, and financial resource requirements.

The Library's current mission statement continues to provide a broad framework for guiding the Library. Full text of the mission and strategic priorities statement appears in Appendix A. In October 1995, the Librarian of Congress articulated the Library's mission as follows:

The Library's mission is to make its resources available and useful to the Congress and the American people and to sustain and preserve a universal collection of knowledge and creativity for future generations.

The Library has identity and acceptance as America's national library, but may not be effectively fulfilling a national mission. In 1992, the American Library Association (ALA), in testimony concerning Senate bill 2748, the Library of Congress Fund Act of 1992, stated, "Although never formally designated as such, the Library of Congress functions as the national library of the United States." The Library's own publications often assert this role.

Within the national role, the national library community views the Library of Congress as a leader and focal point in setting some standards in cataloging, classification, and other library issues. However, the national library community representatives in focus groups and interviews said that the Library's historic role of national library leadership has deteriorated. The library community representatives stated that this role is critical in the future to deal with rapidly evolving technology and information issues. No other organization is providing this leadership.

A strong perception exists among the U.S. library community that the Library of Congress is not well positioned to address the unique library challenges and opportunities created by dynamic advances in digital information, communication, and storage technologies. The national library community sees future library capabilities, functions, and work processes being transformed by these technologies. They described a much more volatile information and publishing environment already being influenced by online storage, distribution, and access to information. Traditional library functions such as cataloging, storage, and preservation may require radically new approaches to effectively adjust to new information environments.

The Library of Congress has an international presence and has selectively engaged in international commitments. Following World War II, the Library established a presence in Europe and elsewhere through expanding acquisition agreements. The foreign language collections expanded to the present day to constitute approximately 50 percent of the Library's book collections and approximately 60 percent of the cataloging workload. The scope and extent of the

Library's foreign language collections make the Library of Congress unique among the world's national libraries.

Several alternative missions and roles could be considered to shape the future of the Library. Three missions can be used to characterize the potential scope of activities of the Library directly supporting: Congress; the nation; and the world community of libraries, publishers, and scholars. Exhibit 2 presents the three mission alternatives.

EXHIBIT 2 Library of Congress - Alternative Missions

Mission A: Library of Congress	
Description	Characteristics
Focuses the Library's functions toward the original role of serving as the Library of Congress, essentially a collection limited to broadly defined congressional needs and Federal government plus CRS-like research. Other functions go elsewhere or disappear, for example, public outreach.	There would be no national library. Leadership of the information/library community would be missing or seized by others. (Some commentators believe that the national library role is more important than the Congressional library role.)
Mission B: Library of Congress/Nation	
Description	Characteristics
Views the Library's role as a national one with some limits on interpretation and cultural programs which may be placed elsewhere, e.g., exhibits, displays.	The national Library role would be formally acknowledged and the Library's leadership/partnering role strengthened. This mission would require increased interaction with national constituencies. A variation of this mission would preserve the Congressional Collection/CRS role as in Mission A, but create another institution to serve as the national library and fulfill the bulk of the present collection and other Library functions.
Mission C: Library of Congress/Nation/World	
Description	Characteristics
Fulfills the words of the mission statement of October 1995. The terms "make . . . useful" and "universal collection" are particularly powerful in legitimizing the expanded interpretation and collection programs, the latter including materials in many languages and from many countries.	With this acknowledged global scope, the size of the collection expands enormously, with accompanying translation and processing consequences.

As a basis for assessment and consideration, we have presented as options, two contrasting roles as follows:

- Independent archive/knowledge developer—focused on *independent* collection building and constituent support
- Information/knowledge broker—focused on a *cooperative/collaborative* focal point role among networks of U.S. and other national libraries and publishers.

Exhibit 3 further describes these roles.

EXHIBIT 3
Library Of Congress - Alternative Roles

Role 1: Independent Archive/Knowledge Developer	
Description	Characteristics
The Library continues to develop and manage collections independently in Library and other Federal government facilities. Traditional original cataloging and research or development functions are performed primarily by Library functional components and staff.	Library collections and facility requirements continue to expand rapidly based on collection strategy and policies. Traditional areas of Library expertise, acquisitions, cataloging, and preservation continue to grow in importance and are the force behind future staffing requirements. Future technologies are strongly influenced by internal operational needs and are supported by constituent capabilities.
Role 2: Collaborative Information/Knowledge Broker	
Description	Characteristics
Library's principal role changes from being a custodian of collections with an independent operational role to a comprehensive broker or referral agency. The Library initiates collaborative and cooperative relationships with other libraries, consortia, and the like. It uses computer communications technology to tell an inquirer which library in the nation or world has the specific information.	<p>The present Library collection would be dealt with by selective retention and/or transfer to other institutions with arrangements for appropriate preservation. These institutions are likely to be well-established research libraries at universities.</p> <p>Other participating institutions would need to demonstrate their willingness and capability to participate in such a system, especially those responsible for collecting, storing, and providing a specified class of information.</p> <p>The bulk of the documents that are needed by a requester located remotely from the document storage location could be shipped physically by regular or express mail. Even with massive digitization, many books will never be digitized.</p>

Alternative missions and roles would have different impacts on the Library's resources, products, and services and on its organization, constituencies, and funding. However, even more fundamental to comparing alternative missions for the Library is the understanding and viewpoint one holds on the role of libraries in

society. For those who give to libraries a major role in the preservation, organization, and provision of information in the emerging "information age," Role 1 will likely be unattractive—national leadership is simply imperative. Those principally concerned with serving the Congress are likely to be concerned with the possible distraction from that role that is inherent in Role 2, collaborative information/knowledge broker.

In an environment of constrained financial and human resources, streamlining, downsizing, and strategic focus of available resources are essential. Concepts of mission and roles directly impact financial and other resources.

Current and Future Mission Recommendation

The Library's current mission should be focused and delimited within the Congress/Nation mission, and planning should begin toward a future mission of serving Congress and performing as a national Information/Knowledge Broker.

Current Mission

As documented in the 1996 testimony of the Librarian of Congress and his principal colleagues before the House Subcommittee on Appropriations, the Library's resources and management infrastructure is sorely stretched to perform the current congressional and national missions. Accordingly, unless more resources can be provided and the infrastructure substantially strengthened, services to Congress should continue as the main priority. To address resource issues, the following candidate areas might be reduced:

- Acquisition of selected special collections
- Foreign acquisitions
- Selected English language acquisitions
- Original cataloging
- Cultural affairs activities, exhibits, displays, and performances.

Further, the current mission statement might be revised today to read:

The Library's mission is to make knowledge available and useful to Congress and available to the American people and to provide leadership in creating networks of institutions that enable the world's knowledge resources to be shared.

instead of:

The Library's mission is to make its resources available and useful to the Congress and the American people and to sustain and preserve a universal collection of knowledge and creativity for future generations.

Addressing the issues identified throughout this report in national leadership, human resources, facilities, and security, the Library needs to move rapidly to develop collaborative relationships with its primary constituencies and to identify and address major library community issues. This effort requires an increased emphasis on Library initiatives that have been developing in recent years to use the capabilities of the Library's existing workforce most effectively and to reduce the operational activities associated with collection building.

Future Mission

The future mission of the Library of Congress will derive from three principal developments:

- Information is increasing in both volume and the role it plays in society
- Technology for information handling is becoming more powerful and widespread
- Society will increasingly need and seek institutions to provide better access to, and usability of, information.

The Library of Congress, as the recognized "nation's library," is well-positioned to occupy a leadership role in guiding the development and coordinating the functioning of networks of distributed information. The Library would become an electronic broker controlling standards, access protocols, and classification and indexing systems. Collections would be largely decentralized to other institutions, probably by subject matter and/or format. This mission concept would involve a huge undertaking, which would occur over a period of 10 to 20 years.

A new and changed mission requires the thoughtful and thorough examination and debate that the Library's heritage deserves. To help accomplish this change, the Librarian needs to take the lead by preparing a detailed plan that outlines the pros and cons of the recommended mission and role as well as other possible alternatives. Then all the affected stakeholders—Congress, government agencies, state and local governments, libraries, publishers, information handling businesses, and others—should be invited to join in examining the options. At the end of this process, the mission of the Library of Congress should be affirmed in law and the level of resources should be provided that will enable the Library's future to be as distinguished as its past.

MANAGEMENT PROCESSES

The examination of institutional management processes at the Library stems from concerns raised both externally and internally about the direction and management of the institution. Many of these issues had been recurring themes through multiple previous studies and discussions with Congress.

- The responsibility for technology activities divided between Information Technoogy Services (ITS) and the service units
- The lack of authority to follow through on Library-wide security issues
- The lack of an institutional advocate at the Library for long-range facilities planning and an unclear division of responsibility between the Architect of the Capitol and the Library
- Lack of a training director with a large part of the workforce nearing retirement and no plan to replace critical skills.

Recommendations

The Library needs to capitalize on its strengths, provide for integration across the institution, and, most importantly, build commitment to ensuring accountability, proactive decision making, and implementation. The Library should:

- Institute a comprehensive planning and program execution process that builds on components in place and links plans to explicit mission elements and outcome-oriented measures of performance.
- Improve the delivery of support services—technology, human resources, and facilities—and better integrate these functions into the Library's operations with the Library mission and strategy
- Institute Library-wide mechanisms to measure performance and monitor results.

OPERATIONAL PROCESSES

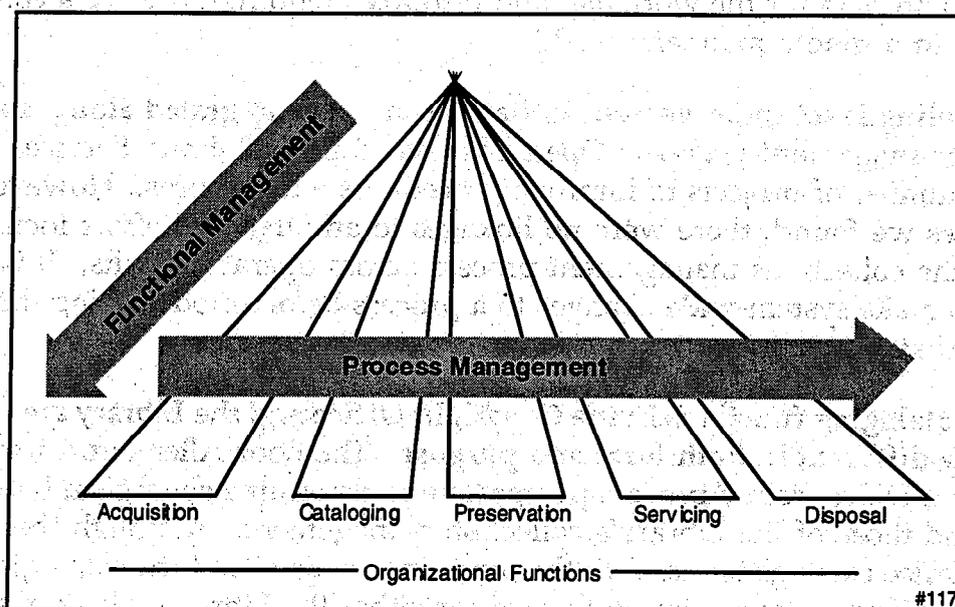
Our study of the Library's processes took two forms: profiling the Library's major processes and detailed examination of the management of two collections—books and photograph. The profiles are made up of flow charts, throughput data, and staffing data for the processes (Appendices E, F, and G).

Findings and Conclusions

The Library manages its collections on a functional basis. It does not control or measure collection management as a process. A functional management approach focuses on guiding, controlling, and improving functions and resources along and within the organizational structure and components.

A process management approach focuses on guiding, controlling, and improving the effectiveness of a business process across an organization to deliver products and services. This difference is shown in Exhibit 4. Typical results from process management practices include reducing backlog problems, eliminating variability in workloads, and increasing the quality and consistency of products and services.

EXHIBIT 4 Process Management



This concept is based on the realization that producing a product and delivering a service requires activities and internal processes that cut across the organization. This approach has the effect of highlighting the integration of, and communication between, people and functions within the organization and its customers. Furthermore, it facilitates the identification of non-value-added activities and deals with the administrative activities as well as the process activities. One of the main benefits and purposes of using a process management approach is that it provides the understanding of how to control, manage, and constantly improve how the organization delivers its products and services in response to changing customer demands and input variables.

Current reporting systems do not provide appropriate visibility of process drivers and controls. These reports are geared mainly to providing information for the Library's annual reports, measuring the levels of arrearages, and producing key indicators.

For collections, the existing information systems are not integrated, do not permit tracking of work in process or identify the specific location of an item in circulation, and do not support maintenance of inventory records. We found no controls or procedures for moving work and materials through the collections process.

The effects of acquiring large collections are not dealt with in a programmatic or systematic method. We noted that the coordination of and planning for acquisitions of large collections are not based on systematic analysis of the overall effects of the acquisition on the functional areas of the Library. Such factors as the

current collection's arrearage status and the requirements for preservation, cataloging, storage, servicing, and budget are not considered in a coherent or consistent manner. Overall, acquisition is not treated programmatically to understand and plan for the workload and resources required to place a collection into service in a timely manner.

Operating level improvement initiatives are not integrated along the collections management process. Operating level units in Library Services have initiated a number of projects to improve procedures and services. However, for the initiatives we found, there were no linkages to an *integrated* effort focusing on improving the collections management process across operating units. It is necessary to make system-wide changes to a process before modernizing the technology that supports it.

The cataloging functions in the Copyright Office and the Library are significantly different in both form and purpose. The Booz·Allen effort reviewed the Copyright Office from a process perspective to determine synergism between its processes and those of the Library's collection management. Although the Copyright Office catalogs items, both the purpose and details of the cataloging are substantially different from that performed for either the Library collections or the library industry. To have the Copyright Office catalog in the same manner as the Cataloging Division would require a substantial increase in complexity and workload. Consequently, they offer essentially no cross-organizational processing benefits.

Although CRS is markedly different from other parts of the Library, it faces some of the same challenges stemming from infrastructure support. Similar to collections management by the Library, CRS uses a number of information systems for storage, retrieval, and tracking that are not integrated into a broader structure to support the CRS processes. Although CRS tracks significant amounts of data, its focus and use of the information is more transaction reporting than process management.

Recommendations

In order to streamline its processes and resource utilization and effectively manage its collections, the Library should reengineer its operational processes.

- Define and manage the Library's operations from a process management perspective
- Plan and manage special and large acquisitions as projects separate from the normal inflow of material.

ORGANIZATIONAL STRUCTURE

The organizational structure of the Library of Congress has evolved over time to focus resources and respond to a series of internal issues and

problems. The recent past (from 1988 to 1996) is marked by three major Library reorganizations and numerous shifts in personnel assignments. The present Library organizational structure is based on a reorganization initiated in late 1995 to address repeated concerns about its ability to make decisions and hold people accountable.

Findings and Conclusions

The Library's functional organizational structure impedes its ability to integrate its operations and improve performance. As described previously, the Library manages its collections on a functional basis (acquisition, preservation, and cataloging) rather than as an end-to-end process. Likewise, support services tend to be managed vertically within the support service rather than horizontally, across the organization being serviced.

Despite frequent changes in senior management assignments and organizational structure, the Library has been unable to address its infrastructure and support services problems. Library support services, including Human Resources, Information Technology Systems (ITS), Facilities, and Security, have been frequently identified as not being effectively integrated with Library operations. A consistent finding among the Library support services has been a lack of functional strategic planning and integrated, Library-wide operational planning. These issues are exacerbated by a broad span of control for some senior executives and multiple layers of management, which result in centralization of some operational decisions and lack of adequate guidance or direction in other cases.

In analyzing the prospects for moving major Library activities to other agencies, we concluded that, while transfer of the Copyright Office from the Library to another organization may not have negative operational impacts, the benefits of such a move are unknown and may cause significant disruption. There is little operational reason for housing the copyright function at the Library of Congress. But physical relocation of the Copyright Office could incur an annual cost to the recipient of \$800,000 for leasing facilities. One of the major benefits of the current arrangement is that copyright deposits are a significant source of material for the Library's collections, conservatively valued at \$13 million per year. However, an arrangement could be made in law that the Library would continue to receive these deposits in any case.

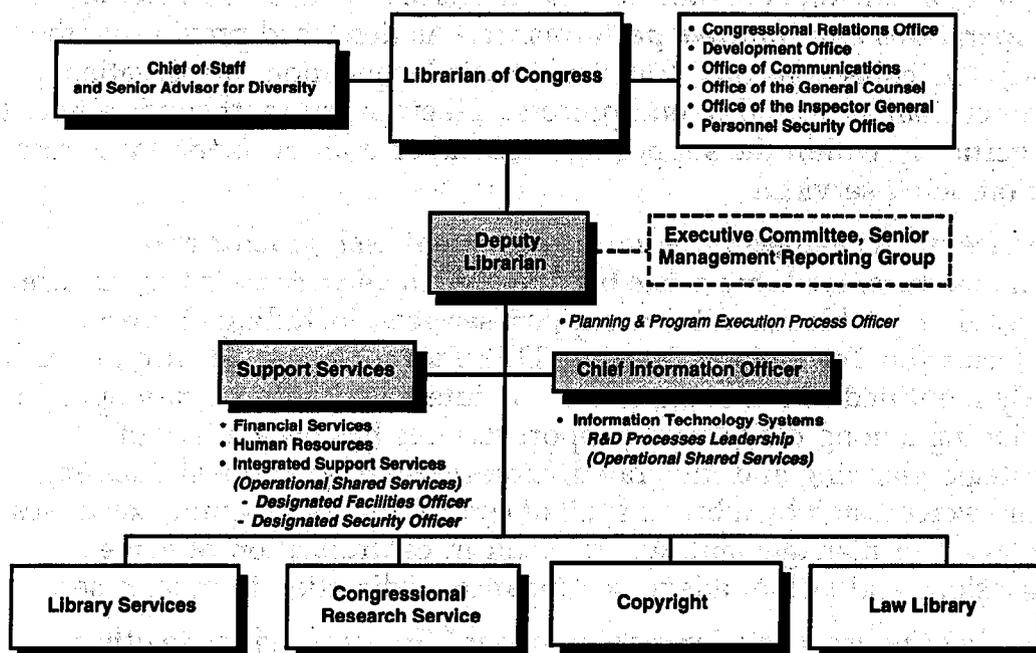
Similarly, the relationship of the Congressional Research Service to the Library is not dictated by operational process interaction or opportunities for synergy. CRS obtains much of its information from sources other than the Library, and it organizes its operations differently. However, there is no compelling rationale or benefit to decoupling the CRS from the Library.

Recommendations

We are recommending several adjustments to the Library's organizational structure. However, we strongly recommend that the Library take proactive steps to focus management attention on making the newly established organizational

structure work. These steps should include clarifying roles and responsibilities and improving management and operational processes and service delivery across the institution. Our recommended changes are displayed in Exhibit 5.

EXHIBIT 5 Recommended Organization



#28-2

Specifically, we recommend a number of changes in roles in the Library which should improve operations of key functions.

- Establish a permanent Deputy Librarian as the Library's Chief Operating Officer and clarify the role of that position by investing it with Library-wide operational decision-making authority
- Elevate the Chief Financial Officer position to focus greater attention on improving the Library's financial systems and controls
- Establish a Chief Information Officer (CIO) position to help implement an effective Information Resource Management (IRM) strategy that integrates the requirements of the Library's broad commitments to internal and external customers and its future mission
- Assign leadership and responsibility for major processes to individual "process owners" who have authority to provide leadership across organizational lines for security, facilities, and planning and program execution processes.

REVENUE OPPORTUNITIES

As part of the overall assessment of the Library of Congress, Booz-Allen explored the potential revenue stemming from existing or additional fee-based services: full recovery of copyright registration costs; charging publishers a fee for cataloging; charging commercial researchers a fee for using Library services and facilities; charging fees for interlibrary loans. Expanding fee based options to provide additional revenues would help to offset costs of needed improvements in the Library operations.

Findings and Conclusions

Opportunities to increase the revenue stream of the Library of Congress do exist and vary significantly in the additional funding they might provide. Exhibit 5 summarizes the overall revenue potential associated with recovering full costs in each of the four areas we analyzed.

EXHIBIT 5
Revenue Analyses Offsetting Value of Items Received

Fee-Based Service	Current Fee Receipts (\$000)	Potential Revenue From Full-Cost Recovery (\$000)	Value of Items Received (\$000)	Potential Net Revenue (\$000)
Copyright Registration ²	12,600	24,000 to 29,400	0	24,000 to 29,400
	12,600	24,000 to 29,400	13,296	10,704 to 16,104
Charging Publishers for Cataloging	0	7,500 to 7,600	1,670	5,830 to 5,930
Interlibrary Loans	0	578 to 678	11	567 to 667
Charging Commercial Researchers	0	Cost Data Not Available	Cost Data Not Available	Cost Data Not Available
TOTAL	12,600	32,078 to 37,678	14,977	17,101 to 22,701

² The first row assumes the Copyright Office would continue to receive copies of registration material at no cost as currently legislated. The second row assumes the Library would purchase \$13,296,000 of materials for the collections which it receives today at no cost. We predicate the latter assumption on the fact that Copyright Law, as currently written, provides copyright protection regardless of whether or not the creator submits a registration.

Two of the services studied, interlibrary loans and charging commercial researchers, have a low volume, thus limiting their revenue potential. As shown in Exhibit 5, the Library lends relatively few items to other libraries; the potential revenue is under \$700,000. Services to commercial researchers are commonly limited to those requests that can be handled in a two-hour time frame. Any additional revenue from those fees would have to be offset by additional costs for performing research that currently is not performed.

Significant revenue potential exists for copyright registration and cataloging, but pursuing this revenue potential must be examined in light of precedent and the Library's mission. We believe the revenue potential from recovering full costs for copyright registrations and charging publishers for cataloging should be addressed within the broader context of the Library's mission. Because the copyright registration and Cataloging In Publication (CIP) programs provide considerable contributions to the Library's collection, the effect of increasing or introducing fees for these services may adversely affect that part of the Library's mission.

However, assuming a decision to maintain copyright and cataloging in the Library and to charge fees for services, we believe that fully recovering copyright registration costs offers significant opportunities both in terms of additional revenue to be captured and relative ease of implementation. The additional revenue to the Library is substantial—ranging from \$11 million to \$17 million depending on various assumptions. Of the four services studied, only the Copyright Office currently has the appropriate support structure in place to recover cost. The base fee for copyright registrations can be modified only by law; however, the Copyright Law does provide the authority to adjust base fees at 5-year intervals to reflect changes in the Consumer Price Index (CPI). Despite the authority to adjust fees by regulation, the Copyright Office has elected not to do so. As a result, fees have not increased as often as changes in cost would demand or current law would allow. The Copyright Office meets two key criteria for pursuing a fee-based service: significant revenue, which makes putting the necessary structures in place worthwhile, and a strong argument and precedent, which can help diffuse possible negative reactions from the customer and stakeholder base.

We have estimated that the potential revenue to the Library from charging publishers a fee for cataloging represents a significant amount of money as well—on the order of \$7,500,000 annually. Recovering this potential revenue, however, may be complex. Both Library of Congress management and many of those outside the Library perceive cataloging as a core service of the Library.

The Library does not have the financial mechanisms in place to support additional fee-based services. Charging fees for services works best when the appropriate financial structures, such as revolving funds, are in place. The Library does not have the fee collection and reimbursement mechanisms in place for any of the services studied other than for the Copyright Office. As mentioned, only the Copyright Office currently has the appropriate support structure in place to recover

cost. The costs of establishing these mechanisms for other services need to be estimated and included in the analysis to assess the real revenue potential from these services. In addition, the Library does not develop detailed cost data for an individual division, nor does it have a framework for determining which possible fee-based services have strong revenue potential.

Recommendations

The Library should focus efforts on increasing revenue. Specifically, they should:

- Pursue full recovery of copyright costs
- Develop a comprehensive plan to explore in detail the potential revenue from charging publishers a fee for cataloging and how to address stakeholder concerns
- Develop a strategy and approach for qualifying potential fee-based services
- Develop legislative strategy to provide the Library with the financial mechanisms and authority needed to implement fee-based services.

INFRASTRUCTURE

There are common infrastructure issues that must be resolved if the Library is to successfully meet the emerging challenges to future mission accomplishment. This infrastructure includes facilities, security, information technology, and human resources.

General Findings and Conclusions

The lack of strategic-level plans for Library support elements means that significant effort is spent resolving the near-term rather than strategic issues and problems. The support infrastructure operates in a reactive mode.

In addition, elements operate in a stovepipe manner, with individual systems for individual functions. Responsibilities for similar functions are often divided among multiple offices without a single process owner for Library-wide matters.

The strategic planning shortcoming is most severe in the information technology realm. The Library tends to approach information technology as a support maintenance activity, while technology is revolutionizing the way people work, learn, and live. Although ITS has a Strategic Plan (last revised in September 1995), it does not include a vision for the future that includes IT as an enabler of the Library's mission, an integrated IRM architecture, or performance improvement objectives that are measurable and linked to mission performance. The Library lacks a clear technology vision to support processes within the Library and the

creation of networks of institutions that enable the world's knowledge resources to be shared.

In facilities, there is no comprehensive plan for the efficient, economic, and secure management of facilities and collections. Facilities planning and management is not treated as an integral part of the Library mission. Although some isolated planning studies and reports define short- and long-term collection storage needs, there is no comprehensive, integrated, Library-wide strategic facilities plan. Without such a plan, there is no formal process in place to:

- Describe the inter-relationship between the mission of the Library and facilities operations
- Define Library-wide space management standards
- Identify facilities options for meeting space requirements and fully develop feasible alternatives.

No attempt has been made to determine how technological advances in on-line storage could be leveraged to reduce future physical storage needs. Such an analysis could result in significant long-term cost savings.

Similarly, security operates in a reactive mode, responding to issues as they arise. Although the Library has taken steps to improve security of the collections, there continues to be allegations of theft and mutilation. There is no single source of policy or requirements for Library security programs nor a comprehensive assessment of risks. In addition, the Library's allocation of resources for security is not well tracked, making it difficult to assess the Library's total cost or to evaluate outcome against investments.

Additionally, the resources and skills of the staff responsible for implementing new technology are, in many instances, rooted in the mainframe computer of prior decades. The Library does not yet have the critical mass of technical talent needed to expand and sustain initiatives such as National Digital Library (NDL).

General Recommendations

The Library's greatest challenge is to think more strategically about security, facilities, human, and information resources management and their relationship to fulfilling mission objectives. The Library should:

- Develop Library-wide Strategic Plans for security, facilities, human resources, and information resources
- Establish integrated, consolidated, and shared data bases for computer-aided facilities management (CAFM), human resources information and tracking, and security related data
- Plan, design, and manage initiatives in infrastructure improvement as investments with appropriate controls and performance evaluations

- Define functional personnel skill requirements for the future and develop plans to respond to new technologies, changing missions, and potential staff turnover
- Update and simplify policies and procedures in infrastructure areas
- Designate qualified senior professionals, including a Chief Information Officer (CIO), for each infrastructure support area to lead accomplishment of key needed improvements.

Specific Findings and Conclusions

In addition to the infrastructure overarching issues addressed above, there are a number of findings, conclusions, and recommendations specific to each functional area that need to be addressed.

FACILITIES

The Library's mission and supporting goals are inherently facility intensive. Available space to store the Library's continuously growing collections has nearly run out.

The lack of approved and promulgated corporate space standards inhibits the establishment of a realistic facilities baseline. As a result, the efficiency and equitable distribution of current space use cannot be determined (and therefore controlled), and a supporting, auditable projection of additional space requirements cannot be made.

Facilities Recommendations

One of the Library's greatest challenges is to treat facilities as an important strategic element for accomplishing the Library's mission. Accordingly, the Library should:

- Perform a comprehensive, forward looking analysis of space needs against mission priorities
- Centralize the prioritization and decision-making about space needs
- Develop comprehensive, uniform, qualitative, and quantitative space standards for all Library facilities and for each type of functional space.

SECURITY

The Library has a number of security related problems resulting from a fragmented organization, ineffective management procedures, lack of a clear security policy, ill-defined requirements for collections security, an incomplete risk management process, and no comprehensive security plan.

The Library does not organize and manage its security functions in an effective manner. There is no single individual responsible and accountable for overall security of the Library. Several divisions have separate and distinct programs with their own policies and guidelines. The management and implementation of electronic security is currently divided between Protective Services and the Architect of the Capitol (AOC). A similar situation exists with respect to computer security.

The Library's has not designated responsibility or authority for computer security applications and data. The acting manager of Protective Services Division (PSD) does not have the security background needed to lead the technical and operational implementation of Library computer or physical security programs.

The Library's budget structure makes it difficult to determine specifically how much money is spent on security. Thus, it is difficult to accurately assess the Library's total security costs. It is also difficult to determine whether the Library has spent money on the appropriate security initiatives since it has not completed a comprehensive risk assessment that would form the basis for budget decisions.

The Library's security program does not conform to generally accepted security practices. There is no single, comprehensive set of security requirements for Library collections programs. Without a requirements baseline, the Library has no comprehensive set of standards, or yardstick, by which to conduct or measure the effectiveness of its security programs. As a result, security is often evaluated only in terms of events, such as the theft or mutilation of books. Also the Library does not have a single, clearly documented security policy. The Library has no method or procedures for systematically evaluating or analyzing risk. The Library does not have a risk management program that includes a comprehensive assessment of the security risks associated with its current operations. Managers from within PSD provide ad hoc risk assessments in concert with managers of the collections. With respect to computer security, the Library has not performed a risk assessment of its information systems.

Security Recommendations

The Library needs to organize and manage its security functions in a less fragmented manner. The Library should:

- Identify a single Library Security Officer (LSO) responsible for all security functions
- Implement a comprehensive risk assessment process
- Establish a comprehensive and overarching security policy

- Transition full responsibility for the design, component selection, installation, integration, and operation of all permanent and temporary electronic security components and systems to the AOC
- Provide management with more detailed information on security program costs and performance.

TECHNOLOGY USAGE

The Library does not view technology in a strategic context nor has it focused on what information is needed to run the organization. This situation is evidenced by the fact that there is no single system-level architecture (complete with a performance measures management component) in place that can facilitate the organization's decision-making process. A greater strategic focus on Information Resources Management (IRM) would position the Library to make better use of technology.

As the Library increases its use of technology, the overall infrastructure becomes an increasingly critical factor affecting the ability of the Library to accomplish its mission. Library systems are not currently integrated at a level appropriate to reduce interfaces between systems, lessen the need for maintenance resources, and minimize redundant data.

The Library is in transition regarding the types of mission support systems it is implementing. It is moving from building the internal data repository capabilities, represented by the core legacy system, to systems that are designed more to automate processes. This means that the operations of the Library are increasingly becoming coupled to the systems designed to support them.

The Library needs to decide whether to build new systems in-house or to outsource future systems development. The Library has a core dependence on legacy systems that have been in operation for over 20 years. Legacy systems are complex, increasingly difficult to maintain, and cannot evolve in line with future Library requirements. If the Library is asked to assume an information broker role in the future, it must move to new, interactive technologies that facilitate data sharing among geographically dispersed organizations. These legacy systems will not accommodate such changes.

Technology Usage Recommendations

The Library should:

- Adopt an IRM approach to information. The Library should begin by changing how it views, collects, and uses information in order to achieve its mission objectives
- Expand the purview of its ITS organization to promote and sustain the IRM function

- Develop a target architecture to support long-range goals to include:
 - A structured configuration audit of all existing systems to establish an accurate configuration baseline;
 - A plan to transition to the target architecture; and
 - The mechanisms to control this architecture, and to keep it documented
- Develop detailed, workable transition plans for Library legacy systems
- Determine whether to build new systems in-house or to outsource future systems development.

HUMAN RESOURCES

The Human Resources function cannot meet the challenges of the future. The Human Resources function at the Library has some significant issues, which will impede the Library's ability to support the ongoing and future needs of the services units. Specifically, the Human Resources function at the Library is problematic in the areas of labor relations, recruitment and selection, and training.

The Library needs an innovative approach to establishing positive labor-management relations. In order to address the concerns of both labor and management, the Library must adopt new methods for increasing communication between labor and management. Labor-management relations at the Library are largely dependent on the membership of the unions and the personalities involved. Only an innovative approach, which includes an agreement to cooperate by both parties, can change the overall atmosphere of mistrust at the Library. As a means of creating a breakthrough on developing more effective labor management relations, the Library should select a relatively small and severable unit within a larger bargaining unit. The Library and the union could then negotiate a much simplified set of terms with stricter adherence to time frames. These guidelines would be applicable to this group only. The format would emphasize discussions, not paper. The pilot would have a definite duration of less than an entire 3-year contract so that it could be properly reviewed, modified, and extended if successful. Training would be included for all employees, supervisors, and managers covered under the pilot. Specific criteria would be identified to show demonstrable improvement (e.g., fewer grievances). If the pilot succeeds, it would demonstrate to other parts of the Library the benefit of working differently.

The Human Resources personnel/processes are not equipped to handle changes to recruitment or selection requirements that may result from innovations in technology, changes to the Library mission, or sizable staff turnover. The service units operate independently in developing recruitment plans with little guidance from Human Resources Support. The Library's core processes require specialized skills provided by a very talented workforce. However, estimates indicate that 50 percent of the workforce will be eligible to retire by 2005, and 70 percent by 2010. The Human Resources Service Unit does not have the skill base to plan for or execute workload and staffing change requirements. Further, it is currently not able to

coordinate staffing among the Library service units to effect long-term, strategic needs.

The Library has expended significant contract dollars to implement the requirements of the Cook Settlement (Cook v. Billington, August 1994), which adversely impacted and encumbered the hiring process, including training, job analyses, and affirmative action reviews. While the Library is in compliance with the current requirements of the Cook ruling, failure to design and implement a more efficient selection system, coupled with failure to plan for expertise required to manage the system, have caused the Library to expend much effort at the expense of other Human Resources support services. Examples of areas needing improvement include policies/procedures revision and standard application of performance reviews.

Training is not viewed as a strategic imperative and not valued or supported by the Library's top management. Training is sporadic and inefficiently provided and does not reflect ongoing assessments of employees' skills requirements, job requirements, and organizational goals. Without ongoing programs to assess employee skills, determine skills gaps, and determine future skills requirements, the Library is unable to plan for and accommodate, through training, changes to the workforce skills base.

Human Resources Recommendations

The Library needs to make a concerted effort to improve its human resources management function. The Library should:

- Develop systematic ways to increase communication between labor and management
- Continue implementing its many competitive selection initiatives and place an employee selection expert in an oversight role
- Update and simplify all policies and regulations
- Develop a strategic approach/plan to grow and sustain the expertise and intellectual capital required for the workforce of the future as the Library experiences significant retirements or turnover.
- Ensure standard application of performance appraisals
- Ensure that all Human Resources staff members are qualified
- Investigate alternative methods for providing human resources services
- Strengthen the position of the Staff Training and Development Office, ensuring that staff development is of strategic importance in achieving the Library's missions and goals.

* * * * *

The Library of Congress is a valuable and important Federal institution that serves the government as well as other important organizations throughout the nation. But, the well being of the Library is challenged today by a variety of issues ranging from its basic mission and role to the management and operation of its programs and support functions.

The Library has had a heralded past, but the key question now is: "What lies ahead?" Making the Library a first class institution for the future will require much work by Library officials. But, that work will only be fruitful in a supportive legislative environment. Therefore, we recommend the Congress commit to a long-term series of oversight hearings on the management and operations of the Library to provide the continuity of interest and support needed to give the Library a future that is both useful to the Congress and to the nation and results in an operationally efficient and effective organization.

COMMENTS OF THE LIBRARY OF CONGRESS

The General Accounting Office provided copies of the Draft Final Report dated April 19, 1996, to the Library of Congress for their comment. GAO and Booz-Allen staff then met with Library officials on April 24 and 25, 1996, and discussed some of the factual matters in the report. The Library also provided technical corrections that we have made in this report. Further, the Acting Deputy Librarian wrote to GAO on April 26, 1996, providing overall comments on the report's recommendations and overall findings. The Acting Deputy Librarian's letter dated April 26, 1996 is included in Appendix N of this report.

Generally, the Acting Deputy Librarian agreed with our findings, conclusions, and recommendations. He indicated that the Library will use the report's data and findings as it updates its strategic plan and implements an updated management improvement plan. He also pointed out that the Library has already begun to address some of the recommendations made in our report.

Although the Acting Deputy Librarian said the Library generally agreed with our report, he also said that the Library questions the methodology used in arriving at some of our findings. He said that data gathered from inadequate focus groups were offered as benchmarks for study or emulation by the Library throughout the report, but that there was no indication that these benchmarks were subjected to the same in-depth analysis as the Library's system and processes to which they are compared. As we pointed out in our report, we used several data collection and analysis approaches. We supplemented the data gained in focus groups, for example, with published literature, source documents, interviews, case studies, and process reviews. With respect to the benchmarks we suggested, we based our suggestions on data developed from our site visits to 14 Federal, university, municipal, and private sector organizations. We interviewed over 50 individuals at these organizations.

The Acting Deputy Librarian also indicated in his April 26, 1996, letter that the Library disagreed with our assessment of its mission and would provide detailed comments on the Library's mission to the Joint Committee on the Library on May 7, 1996.

Finally, the Library disagreed with some of our findings on security. The Acting Deputy Librarian said that the Library maintains a disaster recovery plan for its computer system and has appropriate responsibility in place for its computer security. However, as late as January 1996, in interviews with Library ITS personnel, Booz-Allen received different information. When asked the question about disaster recovery planning for their systems, Library personnel responded that they had material on disaster recovery planning and had discussed it but as yet had not developed a plan which documented their intentions. Booz-Allen also noted that Price Waterhouse, in its financial audit, reported the same finding (see p. 6-34 of the PW report). Further, our recommendation for a responsible official for security relates to overall security, including computer, physical, and personnel security.

1.0 BACKGROUND

The Library of Congress is the world's largest library, directly serving the Congress, a broad national constituency of the American public and its libraries, and a worldwide research community. With almost 200 years of growth and development as a legislative library with a broad national role and international presence, the Library must respond to challenges that will test its human and financial resources and that will define its role in the nation and the world for the next century.

Originally established by Thomas Jefferson to support the legislature, the Library of Congress still adheres to the Jeffersonian concept of universality—that there was "no subject to which a Member of Congress may not have occasion to refer." The Library's legislative support role was strengthened in 1914 when the Legislative Reference Service, currently the Congressional Research Service (CRS), was established to provide research and the scientific use of information to solve problems and support policy decisions. Other Library services also provide significant congressional support.

From the late 1800s, the Library began developing a broad national and public service role that grew into its current role as the de facto national library. In the early 1900s, the Library's classification and cataloging schemes and printed catalog cards established bibliographic standards and encouraged cooperation among librarians and scholars nationally and internationally. In the 1960s, the Library created its Machine Readable Cataloging (MARC) format for converting, maintaining, and distributing bibliographic information that became the national standard in 1971 and the international standard in 1973. These two Library innovations positioned the Library as a public leader in systematizing intellectual activity and knowledge development.

Today, the Library encompasses a broad scope of congressional, national, and international activities while developing and maintaining the world's largest general and special collections of knowledge and creativity. The Library maintains its collections of classified books and pamphlets and special format, language, and subject materials in three large, historical facilities on Capitol Hill—the Jefferson, Adams, and Madison Buildings, and in various annexes in the Washington, D.C. area.

The Library's collection-building is relentless. Each day the Library receives more than 10,000 items of which about 7,000 a day or 2.5 million a year are added to the collections. The processing and management of these large numbers of unique books and other materials are a formidable effort that consume many of the Library's resources. Throughout its history, the Library's collections have provided the basic institutional resources through which Library capabilities and its leadership have developed. Currently, managing these sizable collections challenges the Library's operational capabilities and resources, and has resulted in identified issues with cataloging arrears, security, overburdened facilities and human resources. Over the past several years, these issues and Library approaches to addressing them have focused congressional interest on Library operations.

The scope of the Library of Congress constituencies and operations is broad. With approximately 4,500 employees and an annual budget of approximately \$370 million, Library operations are currently managed through an Executive Committee and Senior Management Reporting Group and four major services operations: Library Services, the CRS, the Register of Copyright (Copyright Office), and Law Library. Legislated responsibilities range from collections acquisition, cataloging, preservation, and collection management to delivering products and services to a broad national and international constituency including Congress, libraries, publishers, scholars, the blind and physically handicapped, and a wide cross-section of the American public.

At the end of the 20th century, the future roles and capabilities of the Library will be influenced by significant external trends and forces. These include the following:

- Redefinition and downsizing of government roles and scope
- Revolution in digital information technologies
- Explosion of information and publications worldwide
- Redefinition of the role of libraries in the digital age
- Knowledge as a basis of economic value
- Globalism and international economic competitiveness.

Within the context of these external influences, the Library of Congress will need to clarify its role and direction as a Federal institution. It will need to develop the capabilities, processes, and organization to address its existing issues and to position the institution to effectively perform its future roles.

In August 1995, the Senate Appropriations Committee, in a letter to the Comptroller General for the General Accounting Office (GAO), requested that the GAO perform a management review and financial audit of the Library of Congress in response to specific issues. In December 1995, the GAO contracted with Booz-Allen & Hamilton Inc. to conduct a management review of the Library to support Library FY 1997 congressional hearings. To complement this management review, GAO also contracted with Price Waterhouse to conduct a review of the Library's financial management.

1.1 Objectives and Scope

Booz-Allen was engaged by GAO to conduct the management review of the Library of Congress by examining four major issue areas, principally through analysis of three major services of the Library. Exhibit 1-1 lists the focus of this management review.

EXHIBIT 1-1 Management Review Focus

Issue Areas	Services
General Management	
Human Resources	Collections Services
Products, Services, and Fees	Copyright Office
Facilities	Congressional Research Service
Security	
Technology Usage	

The overall objectives of this review were to assess current operations and to develop recommendations for performance improvements in general management, human resources, security, facilities, and technology usage. In the area of products, services, and fees, the objective was to assess the revenue potential of charging fees that recover full cost in providing four specific services.

The four issue areas provided the framework for focusing data collection, analysis, and the development of overall recommendations. Exhibit 1-2 presents the specific topics addressed within each issue area.

EXHIBIT 1-2 LC Management Review Topics

Issue Areas	Topic Areas
General Management	Mission Management Processes Operational Processes Organizational Structure
Human Resources	Impact of the Cook Case Training Labor Management Relations EEOC Guideline Compliance
Products, Services, and Fees	Revenue Opportunity Assessments Cataloging Copyrights Commercial Research Interlibrary Loan
Facilities	Infrastructure Capabilities
Security	Policy, Processes, Technology
Technology Usage	Areas Information Technology Needs to Support Operational Processes Emerging Technologies

1.2 Methodology

The overall methodology consisted of six primary data collection and analysis approaches supplemented, where appropriate, by issue area specific techniques. The general data collection and analytical approaches included:

- Literature search and source document reviews
- Interviews
- Focus groups
- Process reviews
- Institutional visits
- Case study development
- In addition, Booz·Allen is conducting a baseline employee survey of the Library of Congress staff, which will be completed about four weeks following this report.

A brief general description of each of the six general activities is presented below. The Appendices contain supporting data.

Literature Search and Source Document Reviews

Booz·Allen staff reviewed some 300 library-related documents and information. See Selected Bibliography, Appendix L.

Interviews

Booz·Allen staff interviewed more than 150 Library staff members, outside persons knowledgeable about the Library, independent or outside experts, and former Library staff members. The groups represented are shown in Exhibit 1-3 below. Both individual and group interviews were conducted using structured interview protocols and general discussions of issues and Library processes and activities.

EXHIBIT 1-3
Individuals Represented in Interviews

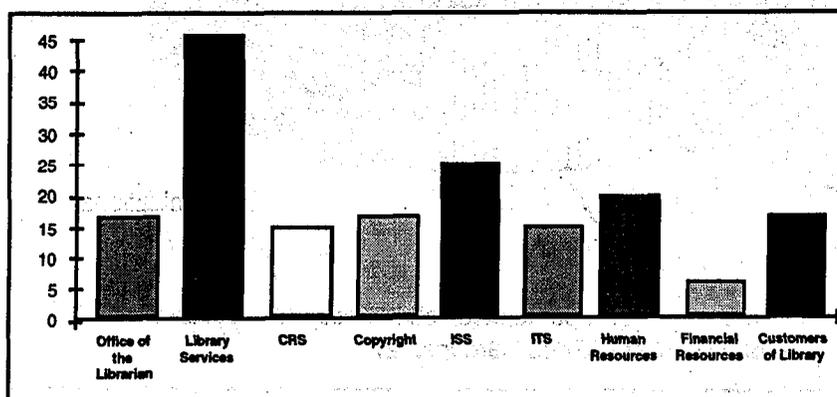
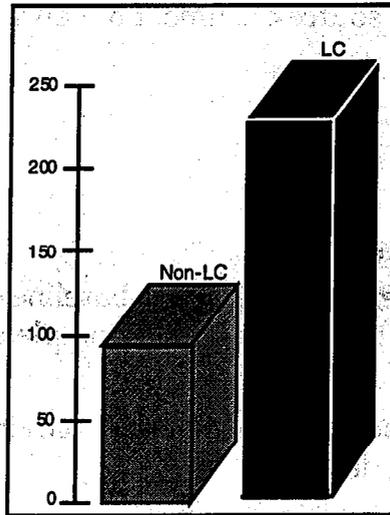


Exhibit 1-4 shows the relative numbers of Library and non-Library participants in the interviews.

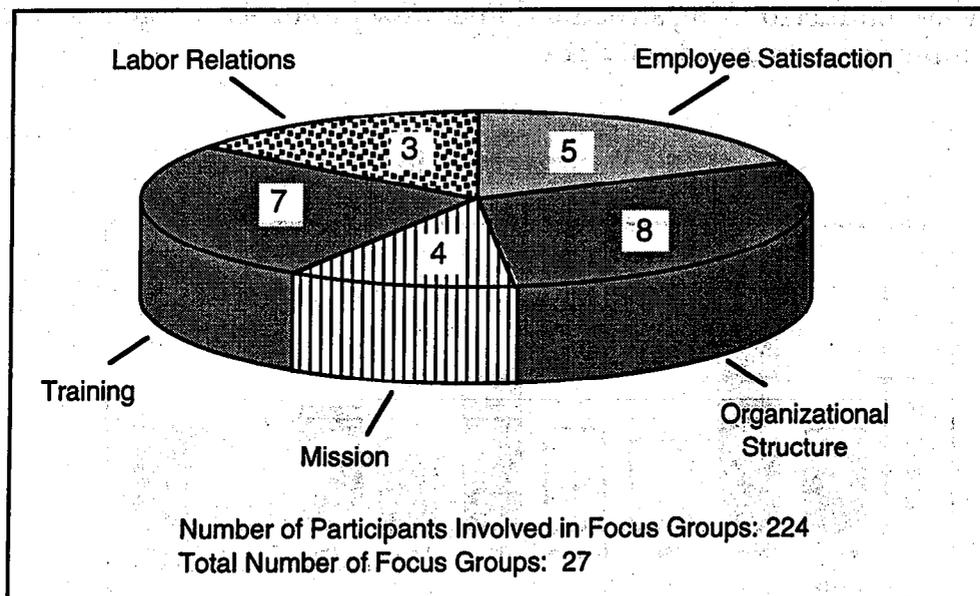
EXHIBIT 1-4
Library and Non-Library Participants



Focus Groups

Booz-Allen staff conducted 27 focus groups with 224 participants. These were held to identify perspectives and issues on the Library's mission and services and on human resources issues related to morale, labor relations, training, and staffing. The focus for these groups is represented in Exhibit 1-5.

EXHIBIT 1-5
Subjects of Focus Groups



Focus groups were conducted in Library facilities in the Madison Building. Results of these focus groups are presented in the Mission and Human Resources sections of this report. Mission focus group protocols are included as Appendix B.

Process Reviews

Booz-Allen staff used a process management perspective to assess Library performance. In general management issue areas, process profiles were developed to assess resources and workload across the Library in delivering products and services. Management and operational processes were profiled as baseline information for analysis and development of recommendations. Process analyses are presented, where relevant, for the general management and other issue areas. Specific operational process profiles are included as Appendix E.

1.3 Selected Institutional Visits

To provide benchmarks for comparative analysis and to identify current issues, perspectives, and opportunities for Library management and operations, Booz-Allen staff conducted visits to selected institutions. A total of 14 sites was visited, involving over 55 participants. Sites included the following:

- Federal government
 - National Archives and Records Administration (NARA)
 - Smithsonian Institution
 - Patent and Trademark Office (PTO)
- University Libraries
 - Carnegie Mellon University
 - Harvard University
 - Indiana University
 - Massachusetts Institute of Technology (MIT)
 - Purdue University
 - University of California at Berkeley
 - University of California at Los Angeles
- Public Libraries
 - Chicago
 - New York City
- Commercial
 - Corporate/National Research Initiative
 - On-line Computer Library Center (OCLC)

See further details in Section 3.3 and Appendix K.

Case Study Development

To provide specific background on Library institutional planning, problem solving, and decision making processes, case studies were developed that provided documentation and analysis of five significant Library issues. The documented case studies are the following:

- Arrearage Reduction
- Collections Security
- Competitive Selection Process
- Fort Meade Storage Facility
- National Digital Library.

Findings documented in the case studies are incorporated in the relevant sections of this report and served in part as a basis for our analysis of management processes. Case studies are included in Volume 2. Methodologies and approaches specific to each issue-area are described in each issue section.

This project was initiated on January 2, 1996 and included the following deliverables: an Interim Briefing, dated February 21, 1996, delivered to the General Accounting Office, the congressional staff, and Library of Congress executives, a Draft Final Report submitted to GAO on April 19, 1996, and this Final Report submitted to GAO on May 7, 1996.

1.4 Organization of this Report

The report is contained in two volumes:

VOLUME 1

- **Executive Summary** summarizes highlights of the report.
- **Sections of the review include:**
 - **Background**—Describes the background of the project and the scope of our effort.
 - **Overarching Issues**—Addresses issues of mission, management, workforce, and revenue opportunities that affect all areas being reviewed.
 - **Infrastructure**—Focuses on the areas of facilities, security, and technology usage.
 - **Human Resources**—Presents evaluation of the Library's human resources management.

VOLUME 2

- **Case Studies**—Presents examples of various decision-making processes within the Library.
- **Comments from Library of Congress**—Letter dated April 26, 1996, to the General Accounting Office from the Acting Deputy Librarian of Congress.
- **Appendices**—Presents supporting documentation and analysis referenced in the body of the report.

2.1 MISSION

2.1.1 Background

The mission of the Library of Congress has been the topic of intermittent debate for nearly 200 years. There is no dispute that the Library was established to store "... such books as may be necessary for the use of Congress" that were purchased with a \$5,000 appropriation signed into law on April 24, 1800.¹

The breadth of the Library's collections and, indeed, many of its aspirations derive considerably from Thomas Jefferson's observation that "there was no subject to which a Member of Congress may not have occasion to refer."² Various further functions have been assigned to the Library across the subsequent decades, some having little direct connection to its role as a congressional library. The Library's activities today encompass an ad hoc role as national library and a significant international role in developing its collections and addressing Library issues world-wide.

The principle is widely accepted that a clearly articulated mission or purpose is central to an organization's success. In public organizations, mission or purpose is commonly stated in the legislation creating the agency or authorizing its funding. Such statements provide guidance for the agency's programs and priorities and for evaluating performance compared to purpose.

2.1.2 Methodology

This study has addressed the subject of the Library's mission by doing the following:

- Reviewing congressional and Library documentation: statutes, reports, and publications
- Interviewing 10 selected senior public/research library professionals
- Holding mission/general management focus groups.

¹ John Y. Cole, Jefferson's Legacy. A Brief History of the Library of Congress, 1993, p. 12.

² Jefferson to Samuel H. Smith, September 12, 1814, quoted in Cole, op. cit., p. 13.

Participation and schedules for the four focus groups are shown below:

<u>Group</u>	<u>Participants</u>	<u>Date</u>
Congressional Staff Members	6	February 16
Senior Library Executives	7	February 17
External Customers	10	March 13
Federal Libraries	8	March 18

Booz-Allen prepared and used a standard protocol for the mission/general management focus groups that addressed four major topics with each group. Each focus group addressed the following:

- Current mission statement
- Customers, products, and services
- Fees for products and services
- Mission alternatives.

The focus groups with congressional staff members and Library executives also explored a fifth topic, the Library reporting or oversight structure.

Appendix B presents the focus group protocols and summaries of the session results. This section presents the overall results of this mission review. We also define, on the basis of the interviews and focus groups, alternative Library missions and roles and assess their implications.

2.1.3 Findings

The objective of this section is to identify critical mission-related issues and to develop a framework for making decisions regarding the Library's future mission and roles.

1. The Library operates under broad statutory authority.

The statutory authority of the Library of Congress provides specific guidance for a number of programs. Throughout its 195-year history, the Library has been tasked with and funded for new initiatives with specific authorities. Recent programs legislatively assigned to the Library include the following:

- American Television and Radio Archives—1976
- American Folklife Center—1976
- Center for the Book—1977

- Mass Book Deacidification Facility—1984
- National Film Registry/National Film Preservation Board—1988/92.

The Library has broad authority for the acquisition of materials for the Library of Congress and collections using a variety of acquisition methods. This authority and the expanding volumes of materials cause an almost continuous expansion of workload as greater numbers of materials are acquired for the broad range of the Library collections.

The enabling legislation that contributed to further expansion of the Library's role was the 1897 legislation authorizing the Librarian of Congress to make rules and regulations for the governing of the Library. This authorization has provided the Librarian with the capability to initiate projects and programs that become individually funded through congressional appropriation and become a permanent component of Library activities.

2. The mission and activities of the Library have continued to expand throughout its history.

The Library's activities have almost consistently continued to expand based on both congressional and Librarian actions. With the appointment in 1865 of Ainsworth Spofford as Librarian, the Library of Congress began its expansion from a focus on the legislature to an institution of national and international significance. In 1870, the Copyright Amendment Act brought all copyright registration and deposit activities to the Library and a large collection began to build through copyright deposit. By 1897, the Library had moved into the Jefferson Building and, in the reorganization of the Library, the Librarian was assigned responsibility for making the "rules and regulations for the government" of the Library. For the last century, the roles and mission of the Library have continued to expand both through Librarian initiatives and congressional legislation. Significant events in this mission expansion include the following:

- Interlibrary loan system established (1901)
- Sale and distribution of Library of Congress printed catalog cards (1902)
- Legislative Reference Service (LRS) established (1914)
- Library of Congress Trust Fund/Board established (1925), creating new cultural role in accepting gifts and bequests
- Library of Congress Mission in Europe and Mission to Japan, established in 1945-47, initiated automatic book purchase and agreements with foreign dealers

- LRS renamed Congressional Research Service (CRS) (1970)
- Acquisition centers established in New Delhi and Cairo (1961) (currently six overseas acquisition offices)
- Library of Congress Machine Readable Cataloging (MARC) format becomes official national standard (1971) and international standard (1973)³
- Madison Council (1990) established to raise funds from private sources for priority initiatives of the Library
- National Digital Library (1994) effort to digitize 5 million items of American historical interest by 2000 and make them broadly accessible.

In the past 20 years, the expansion of the Library's activities has resulted from rapid growth of the overall collections, specific legislated programs, and Library-sponsored initiatives. The collections have grown at a rapid rate (approximately 2.5 million items annually) as a result of the Library's global reach and through specific initiatives, such as the James Madison Council, in nurturing special collections. Specifically legislated programs in the past two decades include those identified above. Recent initiatives include those associated with a new educational role for the Library, including a Development Office, the James Madison Council, and the "American Memory Project," which has evolved into the National Digital Library (NDL). This breadth of scope has tripled the size of the Library's collections and staff since 1950, with annual appropriations increasing from approximately \$9 million in 1950 to more than \$350 million in 1996.⁴ This growth has been accompanied by an increasing range of products and services for its constituencies, the American public, and the international community and has resulted in an extremely broad and expanding range of Library human, physical, technology, and financial resource requirements.

The Library's current mission statement continues to provide a broad framework for guiding the Library (full text of the mission and strategic priorities statement appears in Appendix A). In October 1995, the Librarian of Congress articulated the Library's mission as follows:

³ Cole, *op. cit.*

⁴ *Ibid.*, and Library of Congress budget documents.

The Library's mission is to make its resources available and useful to the Congress and the American people and to sustain and preserve a universal collection of knowledge and creativity for future generations.⁵

Although the statement is open to interpretation, it is comprehensive and provides a foundation for the Library's programs. It is supported by four defined priorities: provides service to Congress; preserve, secure and sustain universal collections; make collections maximally accessible; and add interpretive and educational value.

We discussed this mission statement in the mission focus groups. Focus group participant comments concerning this mission statement included the following:

- Deliberately written in the broadest possible terms
- Generic except for the term "universal"
- Missing mention of the following:
 - Leadership role
 - Role in network of libraries and publishers
 - Dealing with new forms of knowledge, information, and services
 - Collaborative role with Federal government/libraries.

The definition of universal collection was unclear, and universal collection is considered an impossible goal. "Universal" scope was contrasted with and considered to be different from "comprehensive" collections by senior Library executives. Also the definition of the term "universal" continually expands as knowledge and technology expand. Commitment to future generations was considered a unique Library role that results in a perceived decision making risk in the collections policy in that virtually everything must be acquired as an item of intellectual value.

In practice, the Library has distinct exceptions to the stated universal collections policy. First, agriculture and medicine are two disciplines that are excluded from the Library's acquisition processes because other U.S. national libraries acquire and sustain those collections. Second, U.S. Government publications and records, important sources of knowledge and history, are maintained under the purview of the National Archives. Third, some forms of American cultural and intellectual productivity are registered, collected, or archived by the Smithsonian Institution or Patent and Trademark Office. These are all reasonable and distinct exceptions. They show that the Library's collection need not be the truly universal collection of human knowledge or the sole comprehensive

⁵ Library of Congress Mission and Strategic Priorities, October 1995 (Appendix A).

record of American history and creativity because distinct forms of knowledge are made available by other national institutions.

This mission statement coupled with the range of legislated Library activities continues to provide an extremely broad scope and framework for the Library mission.

3. Current Library activities/programs are numerous and varied.

To support the Library's legislated mandates and to support its congressional and public constituencies, the Library provides a broad range of products and services to a wide group of constituencies. Exhibit 2-1 shows the Library's constituencies and principal products and services.

EXHIBIT 2-1 Library of Congress Customers, Products, and Services

Customer Groups	Products/Services
Congress:	
Congressional Members and Staff	Congressional Research Service (CRS), Reference, Legislative Information Systems (THOMAS and LC MARVEL), Translation Services, Law Library, Global Legal Information Network (GLIN), Document Delivery
Library Internal Staff	Document Delivery
Other Government:	
Federal Government Agencies	Law Library, Research, Reference
Federal Libraries	Federal Library and Information Network (FEDLINK), Federal Library and Information Center (FLICC), Translation Services, Law Library, Global Legal Information Network (GLIN), Legislative Information Systems (THOMAS and LC MARVEL), Cataloging, Interlibrary Loan, Catalog Distribution Service, Federal Research Division (FRD)
Slate and Local Governments	Reference, Research
Nation/World:	
Libraries (public, academic, research, special)	Interlibrary Loan, Dewey and Library of Congress Classification, Catalog Distribution Service
Educators	National Digital Library (NDL), Center for the Book
Publishers, Scholars, Writers, and Filmmakers	Domestic Copyright, International Copyright, Cataloging, Research, Reference, Scholarly Programs, Film Preservation, National Film Preservation Board, National Film Registry
General Public	Research, Reference, Cultural Performances, Exhibits and Displays, Visitor Services, Retail Marketing, American Folklife Center, Publishing, Publications, Center for the Book, Legislative Information Systems (THOMAS and LC MARVEL), Access to World Wide Web site, Special Projects
Legal Community	Law Library, Global Legal Information Network (GLIN)
Blind & Physically Handicapped	National Library Service for the Blind and Physically Handicapped (national leadership of a network providing access to machines, audiotapes, and Braille publications)
General Library Services:	
Public and Private Libraries and Archives	Preservation, Collection Department, Collection Security, Leadership/Coordination, Photoduplication

Although this list is not comprehensive, it is indicative of the breadth of activities and range of constituencies to which the Library must respond. The Library delivers these products and services through its four major

"services"—Library Services, CRS, Copyright Office, and the Law Library. The majority of Library staff, approximately 45 percent or 2,100 employees, provides constituent services and collections management activities within the Library Services organization. The CRS, the Law Library, and the Library's Congressional Relations Office, supported by some collections management activities, provide the primary congressional support. The Copyright Office supports the collections through copyright registration and deposit of materials submitted for copyright within the United States.

4. Views on the appropriate scope, focus, and role of the Library of Congress differ significantly among its constituencies.

This section presents findings and conclusions associated with the Library's missions and roles:

- National role
- International role
- Priority products and services
- National leadership role
- Library capabilities.

These findings were developed from participant interviews, focus groups, site visits, and Library data.

a. The Library has identity and acceptance as America's national library but may not be effectively fulfilling a national mission.

John Cole's history of the Library attributes to a former Librarian, Ainsworth Spofford, the conception of the Library, held more than 100 years ago, as an "American" national library.⁶ In 1992, the American Library Association (ALA), in testimony concerning S. 2748, the Library of Congress Fund Act of 1992, stated, "Although never formally designated as such, the Library of Congress functions as the national library of the United States."⁷ The Library's own publications often assert this role. As a basis of comparison for the Library's national role, national library missions for five foreign national libraries are shown in Exhibit 2-2.

⁶ Cole, op. cit., p. 18.

⁷ Statement before Senate Committee on Rules and Administration, July 22, 1992.

EXHIBIT 2-3 Mission Assessment

Focus Group	Mission Focus/Critical Elements	Most Critical Products/Services	Least Critical Products/Services
Congressional Staff	<ul style="list-style-type: none"> • Congress primary • National role important but secondary • Critical mission elements <ul style="list-style-type: none"> - Universal collection - Archive 	<ul style="list-style-type: none"> • Congressional research • Reference services <ul style="list-style-type: none"> - Congress - Public • Language translation • LC classification • Collection <ul style="list-style-type: none"> - Acquisition - Maintenance 	<ul style="list-style-type: none"> • Public research • Foreign law research • Copyright registration • Interlibrary loan • Special publications • Exhibits, performances • National Digital Library
Library of Congress Senior Executives	<ul style="list-style-type: none"> • Congress primary • National and world roles important • Critical mission elements <ul style="list-style-type: none"> - Universal Collections - Knowledge Generation • Library leadership, coordination and facilitation roles 	<ul style="list-style-type: none"> • Congressional research • Reference services for Congress • Language translation • Foreign law research • Copyright registration • LC classification • Cataloging • Collection <ul style="list-style-type: none"> - Acquisition - Maintenance • National Digital Library 	<ul style="list-style-type: none"> • Public reference • Special publications • Exhibits, performances • Photoduplication
Libraries, Associations, Publishers, Scholars	<ul style="list-style-type: none"> • National role primary • Congressional role important • World role important • Critical mission elements • Library/publishing network leadership role • Library of last resort • Dealing with new forms of knowledge, information, and services • Collection building 	<ul style="list-style-type: none"> • Congressional research • Reference • Cataloging • Interlibrary Loan • Classification (LC and Dewey) • Catalog Distribution Service • Copyright • Blind and Physically Handicapped Services • Collections <ul style="list-style-type: none"> - Acquisition - Maintenance 	<ul style="list-style-type: none"> • Translation services • Research • Exhibits, performances • Visitor services • Publishing
Federal Libraries	<ul style="list-style-type: none"> • Federal Government, tied to Congress, primary • National role is critical • LC centralized coordinating role • Critical Mission Elements <ul style="list-style-type: none"> - Collection building - Leadership - Service to libraries - Accessibility 	<ul style="list-style-type: none"> • Congressional research • FEDLINK • Cataloging • Interlibrary loan • LC classification • Technology-based Services • Collections <ul style="list-style-type: none"> - Acquisition - Maintenance 	<ul style="list-style-type: none"> • Center for the Book • Exhibits, performances • Visitor services • Retail marketing • American Folklife Center

d. Study participants perceived that the Library of Congress' national role should be strengthened.

From the interviews, focus groups, and site visits, study participants strongly supported the dual congressional-national mission of the Library. They said that an international role and universal collection should be carefully defined. There was a strong view that the Library is defining its mission role to Congress too narrowly. Several participants felt that by restricting the congressional role to members of Congress and their staffs, the Library is not recognizing that many groups and individuals throughout the United States originate, stimulate, and contribute to defining and developing national policy issues and decisions. Participants stated that the Library needs to recognize that whereas Congress may be its primary constituency, it must also recognize and effectively work with its multiple customers and stakeholders. The national library community identified three specific mission-related issues:

- The Library's national leadership role in emerging library issues and technologies
- Library-specific methods versus collaborative ones with other organizations for providing access to information and avoiding redundancy
- Library of Congress fundraising as competitive with public library funding.

The national library community representatives in focus groups and interviews stated that the Library's historic role of national library leadership has deteriorated. The library community representatives stated that this role is critical in the future to deal with rapidly evolving technology and information issues. No other organization is providing this leadership. Participants stated that the Library of Congress must redefine itself as the major power among many other national and international library networks. By not doing so, participants felt that the Library of Congress was missing major opportunities to make use of its capabilities and expertise. Interviewees and focus group participants identified that using the extensive network of resources available, would strengthen the Library's ability to develop its projects into long-term programs.

Some Library initiatives were perceived as being insular and potentially redundant. The participants identified the need for greater collaboration with other library and government organizations to address specific initiatives or issues. An example was public access to legislative information. The Library and the Government Printing Office (GPO) have competing products for distributing congressional information. THOMAS is the Library's on-line public access system for legislative information, and Thorplus is GPO and Purdue University's user-friendly interface for disseminating legislative information through the internet. This suggests that opportunities for efficiencies through collaboration are being lost.

The Library has embarked on enthusiastic fundraising efforts for the NDL and other products and services. The national library community views these efforts as competing for the funds it is receiving from local and national sources. Study participants identified a need for the Library of Congress to collaborate in initiatives and questioned the public fundraising role within the Library's mission.

- e. **A strong perception exists among the U.S. library community that the Library of Congress is not well positioned to address the unique library challenges and opportunities created by dynamic advances in digital information, communication, and storage technologies.**

The national library community represented in the focus groups and interviews described a rapidly changing library environment strongly influenced by digital information technologies. Participants saw future library capabilities, functions, and work processes being transformed by digital technologies. Participants described a much more volatile information and publishing environment already being influenced by on-line storage, distribution, and access to information. Traditional library functions such as cataloging, storage, and preservation may require radically new approaches to effectively respond to new information environments. Participants emphasized the need for balance between traditional library methods and pursuing the opportunities presented by the new technologies. Participants generally recognized that no single institution could effectively address the need for new approaches, standards, guidelines, and principles in the new digital environment and that collaboration among all relevant stakeholders was the only appropriate method for defining and addressing these issues. U.S. libraries have already established consortia that are beginning to define and address issues associated with library digitization, as are commercial organizations.

The perception among the library community is that the Library of Congress is not inclined to take a leadership role in these types of collaborative efforts in the library community nor, in the participants' view, are the technology capabilities available within the Library of Congress. The large majority of participants perceived that Library of Congress messages regarding NDL have hindered a national dialogue. All participants felt that the Library of Congress should have a leadership role in these efforts, not as a decision maker but as partner and catalyst.

- 5. **Several alternative missions and roles could be considered to shape the future of the Library.**

Based on our research and focus group results, we have defined alternative missions and roles for the Library. Three missions address the expanding scope of the Library as directly supporting Congress, the nation, and the world community of libraries, publishers, and scholars. Exhibit 2-4 presents the three mission alternatives.

**EXHIBIT 2-4
Library Of Congress
Alternative Missions**

Mission A: Library of Congress	
Description	Characteristics
<p>Focuses the Library's functions toward the original role of serving as the Library of Congress, essentially a collection limited to broadly defined congressional needs and federal government plus CRS-like research. Other functions go elsewhere or disappear, for example, public outreach.</p>	<p>There would be no national library. Leadership of the information/library community would be missing or seized by others. (Some commentators believe that the national library role is more important than the congressional library role.)</p>
Mission B: Library of Congress/Nation	
Description	Characteristics
<p>Views the Library's role as a national one with some limits on interpretation and cultural programs which may be placed elsewhere, e.g., exhibits, displays.</p>	<p>National Library role would be formally acknowledged and the Library's leadership/partnering role strengthened.</p> <p>This mission would require increased interaction with national constituencies.</p> <p>A variation of this mission would preserve the Congressional Collection/CRS role as in Mission A, but create another institution to serve as the National Library and fulfill the bulk of the present collection and other Library functions.</p>
Mission C: Library of Congress/Nation/World	
Description	Characteristics
<p>Fulfills the words of the mission statement of October 1995. The terms "make . . . useful" and "universal collection" are particularly powerful in legitimizing expanded interpretation and collection programs, the latter including materials in many languages and from many countries.</p>	<p>With this acknowledged global scope, the size of the collection expands enormously, with accompanying translation and processing consequences.</p>

Throughout its history, the Library has also evolved in response to competing visions of its proper role as the Nation's library:

- A unique, independent institution offering a single comprehensive collection of the Nation's creative works to be used by Congress and the American people
- The center of a network of American libraries, a focal point for providing other libraries with cataloging and bibliographic services.⁸

The emphasis of these roles has evolved, dependent on the Library's leadership and funding, to a current expectation that the Library can effectively fulfill both roles. This tension, coupled with expanding national and international scopes and constrained funding, results in a need for the reconsideration of the Library's mission scope and roles.

As a basis for assessment and consideration, we have redefined these contrasting roles as follows:

- Independent archive/knowledge developer—focused on *independent* collection building and constituent support
- Information/knowledge broker—focused on a *cooperative/collaborative* focal point role among networks of U.S. and other national libraries and publishers.

Exhibit 2-5 further describes these alternative roles. These two roles and their associated mission dimensions provide the framework for an assessment of the future Library mission and roles.

Congressional and Library of Congress participants in this study assessed the current and projected Library role as that of an independent archive/knowledge developer providing a useful resource for the congressional, national, and, to some extent, international audiences. Within the broader national and international communities, participants identified a critical need for the Library of Congress to assume a stronger leadership or catalyst role through collaborative partnering relationships both nationally and internationally. Defining the future missions and roles for the Library requires identification and consideration of the implications among alternatives. The following sections summarize significant implications and impacts among these various alternatives.

⁸ Cole, op. cit.

EXHIBIT 2-5
Library Of Congress
Alternative Roles

Role 1: Independent Archive/Knowledge Developer	
Description	Characteristics
<p>The Library would continue to develop and manage collections independently in Library and other Federal government facilities. Traditional original cataloging and research or development functions would be performed primarily by Library functional components and staff.</p>	<p>Library collections and facility requirements continue to expand rapidly based on collection strategy and policies. Traditional areas of Library expertise, acquisitions, cataloging, and preservation, continue to grow in importance and are the force behind future staffing requirements. Future technologies are strongly influenced by internal operational needs and are supported by constituent capabilities.</p>
Role 2: Collaborative Information/Knowledge Broker	
Description	Characteristics
<p>This would change the Library's principal role from being a custodian of collections with an independent operational role to a comprehensive broker or referral agency. The Library would initiate collaborative and cooperative relationships with other libraries, consortia, and the like. It would use computer communications technology to tell an inquirer which library in the nation or world has the specific information. This mission would be facilitated by index/pointer systems and data transmission techniques to enable timely access to documents and information.</p>	<p>The present Library collection would be dealt with by selective retention and/or transfer to other institutions with arrangements for appropriate preservation. These institutions are likely to be well-established research libraries at universities.</p> <p>Other participating institutions would need to demonstrate their willingness and capability to participate in such a system, especially those that would be responsible for collecting, storing, and providing a specified class of information. Apart from the system interconnection, the functions of such institutions would be conceptually similar to those performed independently today by the national libraries of agriculture and of medicine.</p> <p>In considering the volume of data to be transmitted under this mission, it should be recognized that the bulk of the documents that are needed by a requester located remotely from the document storage location could be shipped physically by regular or express mail. Even with massive digitization, many books will never be digitized.</p>

6. Alternative missions and roles would have different impacts on the Library's resources, products, and services and on its organization, constituencies, and funding.

From the focus groups, interviews, research, and analysis of current operations, we have identified potential implications and consequences associated with the mission and role alternatives. Assessments of impacts on the following are presented as exhibits:

- Resources: Collections, Facilities, Human Resources, and Technology (Exhibit 2-6)
- Products and services (Exhibit 2-7)
- Relative resource requirements (Exhibit 2-8)
- Organizational components (Exhibit 2-9)
- Customers and constituencies (Exhibit 2-10).

As the reader examines these exhibits, the complexity of making comparative assessments becomes apparent. The evaluator wants both more detail for each assessment dimension and a way of simplifying the comparison across all dimensions and alternative missions and roles. We have sought a balance that would allow us to reach directional judgments on alternatives: more or less, better or worse, and the like.

Even more fundamental to comparing alternative missions for the Library is the understanding and viewpoint one holds on the role of libraries in society. For those who give to libraries a major role in the preservation, organization, and provision of information in the emerging "information age," Role 1 will likely be unattractive—national leadership is simply imperative. Those principally concerned with serving the Congress are likely to be concerned with the possible distraction from that role that is inherent in Role 2, collaborative information/knowledge broker.

Exhibit 2-6 illustrates that the implications for current library resources among the missions and roles differ both in kind and degree among the alternatives. The alternatives nearest to current Library functioning are the Congress/Nation scope and the archive/knowledge developer role. Currently, the Library also has a significant international role that is selectively applied. Resource implications range from a focus on and consolidation of the congressional mission to expansion of resources and capabilities into a full international role. Adopting the broker role in a significant way will require new skills and capabilities in staff and technology to utilize existing Library capabilities to create and work in collaborative networks.

EXHIBIT 2-6 Implications for Library Resources

Mission	Collections	Facilities	Human Resources	Technology
<p>A.</p> <p>Library of Congress</p>	<ul style="list-style-type: none"> • Focused development strategy—legal, economic, historical; journals/ serials • Evolutionary repositioning of national collections 	<ul style="list-style-type: none"> • Facilities reduced as national collections are repositioned • Increase in off-site storage facilities requirement as collections are repositioned 	<ul style="list-style-type: none"> • Reduced staff, with increased research emphasis • Lose cataloging/ classification and standards expertise/ leadership 	<ul style="list-style-type: none"> • Leveraged technology to do work focused on networks and media • GLIN providing platform for innovation
<p>B.</p> <p>Library of Congress/ Nation</p>	<ul style="list-style-type: none"> • Management capacity—collection development strategy focused through cooperative alliances—U.S. and other national libraries • Focus foreign language and/or English language collections to capacity • Selectively build special collections 	<ul style="list-style-type: none"> • Management capacity—stable to growing by collection development strategy • Critical nature of environmentally controlled facilities and preservation technologies 	<ul style="list-style-type: none"> • Some shift in staff skills/capabilities from technical to integrated technical/standard setting/ functional library leadership • Critical nature of knowledge/capture and training strategies for current staff 	<ul style="list-style-type: none"> • Criticality of overall information technology strategy • Catalyst/leader within national/international library communities • Research and development (R&D) role in technology use for knowledge development • Technology used to create and disseminate information
<p>C.</p> <p>Library of Congress/ Nation/World</p>	<ul style="list-style-type: none"> • Expansion of global collections—foreign language • Focus on extended collections through international alliances and catalyst role • LC leadership/ catalyst in global collection development and research 	<ul style="list-style-type: none"> • More, smaller international locations • Potentially growing centralized requirements • Criticality of environmentally controlled facilities and preservation technologies 	<ul style="list-style-type: none"> • Expansion of foreign language capabilities and staff • Expansion of staff to address global issues 	<ul style="list-style-type: none"> • Expansion of technology capabilities to include global networking and physical distribution • Significant international role in evolving technology and library applications. Multiple-language technologies • Enabling innovations in library functions—cataloging and preservation (especially digital formats)

EXHIBIT 2-6 (cont.)
Implications for Library Resources

Role	Collections	Facilities	Human Resources	Technology
<p>1.</p> <p>Archive/ Knowledge Developer</p>	<ul style="list-style-type: none"> • Current collections expansion rates limited by facilities, staff, and technology capabilities • Capacity management—criticality of collection development strategy and policies to balance facilities, staff, and financial resources 	<ul style="list-style-type: none"> • Expanding facilities requirements • Need for innovative facilities solutions to respond to capacity and preservation requirements 	<ul style="list-style-type: none"> • Focus on traditional library functional expertise—acquisitions, cataloging, preservation, and others. • Use of staff to identify/implement work streamlining opportunities • Training strategy to develop staff capabilities in operational technologies 	<ul style="list-style-type: none"> • Focus technology to do operational work • Internal requirements for operational performance collection management and public access objectives as causative factors
<p>2.</p> <p>Information/ Knowledge Broker</p>	<ul style="list-style-type: none"> • Focus of collection development strategy on extended, cooperative networks • Stabilizing or contracting of centralized collections would occur over time 	<ul style="list-style-type: none"> • Gradually contracting as centralized collections are focused and as cooperative, decentralized collections are established • Increased requirement to manage/support decentralized location of facilities • Increased square footage requirement 	<ul style="list-style-type: none"> • Fewer staff as operating functions are decentralized through cooperative agreements • Concentration of staff capabilities on policy, standards, education, leadership, negotiation, as well as technical 	<ul style="list-style-type: none"> • Becomes key element of broker/leader role in a variety of technologies such as information/communication, preservation, and facilities

The following exhibits, 2-7 through 2-10, present judgmental impact assessments of alternative mission and role decisions for the Library of Congress. These assessments of impact are comparative assessments to 1996 levels of resource commitment (funding and staff) in relative characterizations as more, same, less and/or transfer. These assessments are made for three mission emphases—Congress/Nation/World, and two contrasting roles—Archive/Knowledge Developer, Information/Knowledge Broker. Each mission emphasis implies a refocusing of resources in products/services, organizational components, and specified constituencies. Exclusive focus on service to Congress would represent a contraction in Library mission. The Congress/Nation mission would result in refocusing the Library's product/service emphasis within its current resource base. The Congress/Nation/World mission represents an expansion with additional resource requirements.

The two roles, Archive/Knowledge Developer and Information/Knowledge Broker, imply differing levels of resource requirements. The current Archive/Knowledge Developer role will require expanding resources to support collections and service growth constrained by budgets and streamlining. An Information/Knowledge Broker role would require decreased resources over time as current Library activities are performed through collaborative U.S. and international relationships, and technology and innovation provide stronger collections, library, and information infrastructures. These characteristics of each alternative provide the basis for the assessment presented in the following sections.

The range of Library products and services is broad as shown in Exhibits 2-3 and 2-7. The effects of the alternative missions and roles include the following:

- Congress
 - Increased focus and support to Congress and the Federal government
 - Reduction or elimination and transfer of national constituency products or services from the Library of Congress
- Congress/Nation
 - Reduction of low-priority products or services identified through focus groups or interviews
- Congress/Nation/World
 - Reduction of low-priority products or services
 - Expansion of collections, cataloging, classification, and critical library capabilities as the Library's global role expands
- Archive/Knowledge Developer
 - Reduction of low-priority products or services
 - Increased preservation needs or capabilities.
- Information/Knowledge Broker
 - Reduction and/or transfer of traditional library functional capabilities
 - Increased skill and technology capabilities to build human, physical, and technology networks.

**EXHIBIT 2-7
Impact on Products and Services**

Product/Service	Mission			Role	
	A-Congress	B-Nation	C-World	1-Archive	2-Broker
Congressional Research	●	◐	◐	◐	◐
Reference	●	◐	◐	◐	◐
Legislative Information Systems (THOMAS, LC MARVEL)	●	◐	◐	◐	◐
Translation Services	◐	◐	●	◐	◐
Law Library	●	◐	◐	◐	◐
GLIN	●	◐	◐	◐	◐
FEDLINK	●	◐	◐	◐	◐
Federal Library & Information Center Committee (FLICC)	●	◐	◐	◐	◐
Federal Research	●	◐	◐	◐	◐
Interlibrary Loan	⊗	◐	●	◐	○
Copyright	◐	◐	◐	◐	◐
Cataloging	⊗	◐	●	◐	ⓔ
Catalog Distribution Service	ⓔ	◐	●	◐	ⓔ
Collections Acquisition	⊗	◐	●	◐	⊗
Collections Management	⊗	◐	●	◐	⊗
Dewey Classification	ⓔ	◐	◐	◐	⊗
LC Classification	ⓔ	◐	●	◐	⊗
Preservation	ⓔ	◐	●	●	⊗
NDL	⊗	◐	●	◐	●
Center for the Book	○	◐	◐	◐	◐
Cultural Performances	○	◐	⊗	⊗	⊗
Exhibits and Displays	○	⊗	⊗	⊗	⊗
Visitor Services	○	⊗	◐	◐	⊗
Retail Marketing	○	◐	◐	◐	⊗
American Folklife Center	○	⊗	⊗	⊗	⊗
Publishing	⊗	◐	◐	◐	⊗
Special Projects	○	◐	◐	◐	●
Books/Machines for the Blind and Physically Handicapped	ⓔ	◐	◐	◐	ⓔ
Photoduplication	○	◐	◐	◐	ⓔ

Legend				
● More	◐ Same	⊗ Less	ⓔ Transfer	○ None

Exhibit 2-8 illustrates that the resource requirements reflect an assessment of the relative scope of each of the alternatives. The Congress/Nation and Archive/Knowledge Developer alternatives are a close representation of the Library's operations and role. Library funding in constant dollars since 1980, although somewhat cyclical, has declined about 3 to 4 percent. Funded full-time equivalent (FTE) positions have decreased by approximately 12 percent, from 4,818 in 1980 to 4,214 in 1996.⁹

EXHIBIT 2-8 Relative Resource Requirements

Mission	Relative Resource Requirements Compared to Today's Annual Appropriation of \$350 Million
A. Library of Congress	Much less
B. Library of Congress/Nation	Same
C. Library of Congress/ Nation/World	More
Role	
1. Archive/Knowledge Developer	Same
2. Information/Knowledge Broker	Less ¹⁰

In an environment of contracting financial and human resources, streamlining, and downsizing, strategically focusing available resources is essential. The financial resource effects of the alternative missions and roles directly relate to the conceptions of missions and roles. The Congress/Nation mission and Archive/Knowledge Developer roles are approximately similar to current requirements with some reduction in low-priority products and services to accommodate resource and staffing reductions. Focusing resources on the Library's role to Congress could reduce funding requirements substantially by consolidating and focusing resources and moving national collections to alternative libraries. An expansion of the scope to a more formal global role could require significant additional resources for collections and for developing international capabilities. The Information/Knowledge Broker role would result in decreased funding requirements in the intermediate term (5 to 10 years) as the Library develops its technology and leadership capabilities to create opportunities for new ways of working and for using the capabilities and expertise of networks of libraries and publishers.

⁹ Library of Congress: Comparison of Appropriations, Staff, and Workload Statistics, December 1995.

¹⁰ These are the resources required for central Library function; resources for distributed sites depend on number/role of sites and their offsetting savings.

Exhibit 2-9 shows the assessment of the impact of mission and role alternatives on the major library organizational components.

EXHIBIT 2-9 Impact of Alternatives on the Funding of Library's Organizational Components

Mission/Role	Collections					Components					Support Services			
	Acquisition	Cataloging	Preservation	Collection Management	CRS	Books for the Blind & Physically Handicapped	Copyright	Catalog Dist. Service	Law Library	Cultural Affairs	Office of the Librarian	HR Services	Integrated Support Services	ITS
Approx. FY 1995 Funding (\$M)	28	40	10	40	60	45	31	10	6	6	8	8	20	28
Mission Focus	Mission													
A. Congress	⊗	⊗	⊗	⊗	●	⊖	●	⊗	●	⊗	⊗	⊗	⊗	⊗
B. Congress/ Nation	●	●	●	●	●	●	●	●	●	⊗	●	●	●	●
C. Congress/ Nation/World	●	●	●	●	●	●	●	●	●	⊗	●	●	●	●
Role	Role													
1. Archive/Knowledge Developer	●	●	●	●	●	●	●	●	●	⊗	●	●	●	●
2. Information/ Knowledge Broker	⊗	⊗	⊗	⊗	●	●	●	⊗	●	⊗	●	⊗	●	●

- More
- Same
- ⊗ Less
- ⊖ Transfer

Cost to LC of each component in each mission alternative

Transfer cost continuing elsewhere in Federal Government

The Congress/Nation mission and Archive/Knowledge Developer role are the closest to current operations with some downsizing of lower-priority cultural affairs activities identified by review participants. The first row of the exhibit shows approximate FY 1995 funding for each major organizational component using appropriated funding. As the reader can deduce from the exhibit, approximately 50 percent of the funding of the Library goes to collections management processes and functional support services, including technology. Streamlining and/or making the most of the processes and capabilities can provide opportunities for funding further development. Intermediate-term opportunities for streamlining collection management processes may be realized by focusing on the congressional mission and by focusing collections appropriately and by using outside resources through the Information/Knowledge Broker role. A broker/facilitator role as well as national and world roles would require the capabilities of technology and support services (contracting, logistics, audit, and the like).

The impact of the mission and role alternatives requires consideration of four major groups of constituents—Congress; Federal libraries and government agencies; the library, publishing, and scholarly communities; and other major constituencies, including the general public. Refocusing resources through the selection or definition of the scope (Congress, Nation, or the World) will provide additional resources or services to the appropriate congressional, national, or international constituencies as shown in Exhibit 2-10.

The Information/Knowledge Broker role could provide additional capabilities or services to the national and international networks and make use of the resources of other institutions. Specific public constituencies may receive reduced direct services from the Library; however, overall support and service should be expanded through the network of libraries, publishers, and other institutions.

**Exhibit 2-10
Impact of Mission or Role Alternatives on Customers and Constituents**

MISSION/ROLE	Congress	Federal Government	Libraries (University/Public)	Educators	Publishers, Scholars, Creative Community	Legal Community	Blind & Handicapped	General Public
Mission								
A. Congress	●	◐	⊗	⊗	⊗	◐	◐	⊗
B. Congress/Nation	◐	◐	●	●	●	◐	◐	◐
C. Congress/Nation/World	◐	◐	●	●	●	◐	◐	⊗
Role								
1. Archive/Knowledge Developer	◐	◐	◐	◐	◐	◐	◐	◐
2. Information/Knowledge Broker	◐	◐	●	⊗	⊗	◐	◐	●
Legend								
● More Focus/Service ◐ Same ⊗ Less								

2.1.4 Current and Future Mission Recommendation

The Library's current mission should be focused and delimited within the Congress/Nation mission, and planning should begin toward a future mission of serving Congress and performing as a national Information/Knowledge Broker.

The Library's dual mission to serve the Congress and the nation is broadly recognized and has evolved to constitute the legitimate mission of the Library of Congress as identified in each focus group and interview. Within the national mission context, participants in this assessment consistently identified a rapidly changing technology environment, advances in digitization, and the need for the Library's leadership and collaboration in addressing critical research, standards, and classification issues that are not being addressed. Additionally, participants clearly

recognized the need to systematically limit and consolidate the Library's global role. The majority of study participants identified opportunities for Library partnering and collaborative relationships and the use of new technology capabilities to make the most of existing Library capabilities and develop needed ones.

Current Mission

As documented elsewhere in this report and in the 1996 testimony of the Librarian of Congress and his principal colleagues before the House Subcommittee on Appropriations, the Library's resources and management infrastructure are sorely stretched to perform the current congressional and national missions. Accordingly, unless more resources can be provided and the infrastructure substantially strengthened, services to Congress should continue as the main priority. To address resource issues, the following candidate areas, as identified through interviews and focus groups, might be reduced:

- Acquisition of selected special collections
- Foreign acquisitions
- Selected English language acquisitions
- Original cataloging
- Cultural affairs activities, exhibits, displays, and performances.

The criteria for identifying reductions in each of these areas must be developed based on risk and the availability of alternatives; however, our review identified these as offering real opportunities for reductions.

Further, the current mission statement might be revised to read:

The Library's mission is to make knowledge available and useful to Congress and available to the American people and to provide leadership in creating networks of institutions that enable the world's knowledge resources to be shared.

instead of

The Library's mission is to make its resources available and useful to the Congress and the American people and to sustain and preserve a universal collection of knowledge and creativity for future generations.

Addressing the issues identified throughout this report in national leadership, human resources, facilities, and security, the Library needs to move rapidly to develop collaborative relationships with its primary constituencies—public and research libraries, publishers, national libraries, and film producers—and to identify and address major library community issues. This effort requires an increased emphasis on Library initiatives that have been developing in recent years

(cooperative and copy cataloging, collections and resource sharing, and others) to most effectively utilize its existing workforce capabilities and also to reduce its operational activities associated with collection building. These collaborative efforts should be accompanied by a clear strategy for collection development that builds upon them. It appears that this collaborative broker strategy could result in freeing significant resources in traditional library operations over the next few years.

Future Mission

The future mission of the Library of Congress will derive from three principal developments:

- Information is increasing in both volume and the role it plays in society
- Technology for information handling—recording, storing, transmitting, and presenting—is becoming more powerful and widespread
- Society will increasingly need and seek institutions to provide better access to, and usability of, information.

The Library of Congress as the recognized "Nation's Library" is well-positioned to occupy a leadership role in guiding the development and coordinating the functioning of networks of distributed information. The networks would connect users with the facility that is custodian of the desired information. The Library would be a kind of electronic broker, controlling standards, access protocols, and classification and indexing systems. It would not be the custodian of the information, that is, it would not have a comprehensive collections role. Collections would be largely decentralized to other institutions, probably by subject matter and/or format.

This mission concept would involve a huge undertaking, the implementation of which would occur over a period of 10 to 20 years. It would require both institutional and technological coordination of massive proportions. It could be undertaken incrementally as participating institutions were brought on-line.

A new and changed mission requires the thoughtful and thorough examination and debate that the Library's heritage deserves. To help accomplish this, the Librarian needs to take the lead by preparing a detailed plan that outlines the advantages and disadvantages of the recommended mission and role, as well as of other possible alternatives. Then, all the affected stakeholders—Congress, Government agencies, state and local governments, libraries, publishers, information handling businesses, and others—should be invited to join in examining the pros and cons. At the end of this process, the chosen mission of the Library of Congress should be affirmed in law and the level of resources should be provided that will enable the Library's future to be as distinguished as its past.

2.2 ASSESSMENT OF MANAGEMENT PROCESSES

The examination of institutional management processes at the Library stems from concerns raised internally and externally about the direction and management of the institution. External observers of the Library, including Congress, have identified specific issues relating to human resources, facilities planning, and security. In addition, Congress has raised concerns about overall Library management and the ability of the Library to rectify specific issues and, more importantly, to provide the institution with a clear, comprehensive management approach for future operations.

2.2.1 Background

In order to explore these concerns more fully, GAO requested Booz·Allen to examine the institution-wide processes for managing the Library of Congress, particularly in the area of institutional integrated planning and program execution. The areas of concern that GAO asked Booz·Allen to address include the following:

- Planning, including policy and strategy development, and budgeting and resource allocation
- Execution, including executive decision making and problem solving, accountability, roles and responsibilities and communication
- Performance tracking, measurement, and evaluation.

2.2.2 Methodology

In order to examine the key Library-wide management processes, Booz·Allen developed an approach that combined Library management's description of the processes through interviews with review of available documentation of the management processes and their products.

- **Interviews**—We employed structured interviews, informational meetings, and follow-up discussions to collect information from Library personnel. For the assessment of management processes, we conducted more than 50 interviews, including interviews with senior Library managers from across the institution, middle managers in service units, and selected staff members. Meetings included such people as the Librarian, Deputy Librarian, Acting Deputy Librarian, Associate Librarians, Chief of Staff, executive-level managers, service unit heads, division chiefs, committee and working group chairpersons, special assistants, senior professionals from across the Library and congressional staff. Multiple follow-up sessions were conducted in person and by telephone.

- **Document Collection and Analysis**—We gathered documents from all parts and levels of the Library, including the Office of the Librarian, from service units, and from the files of the Records Management Section. Documents reviewed included budget guidance, budget justification and plans, Library-wide planning documentation, executive committee minutes and agenda, internal memoranda, and published information. Additional reviews included congressional testimony, formal announcements, budgets, annual reports, published plans, regulations, project files, bulletins, and newsletters. We supplemented documentation regarding Library-wide processes with supporting documentation from Library line and staff organizations. We focused our document review on information particularly covering the 1991 to 1995 time frame.

2.2.3 Findings and Conclusions

This section presents findings and conclusions resulting from Booz-Allen's study of management and planning processes at the Library of Congress in 12 parts.

1. **At the corporate level, the Library of Congress has in place some of the key elements of an integrated planning and program execution process, but this process is not comprehensive nor has it been institutionalized.**

In assessing the management processes of the Library, Booz-Allen compared the process descriptions and documentation provided by the Library to a conceptual model of an integrated planning and program execution system. Exhibit 2-11 depicts the conceptual framework Booz-Allen applied to assess the completeness and adequacy of the Library's planning and program execution processes.

This process has six key elements:

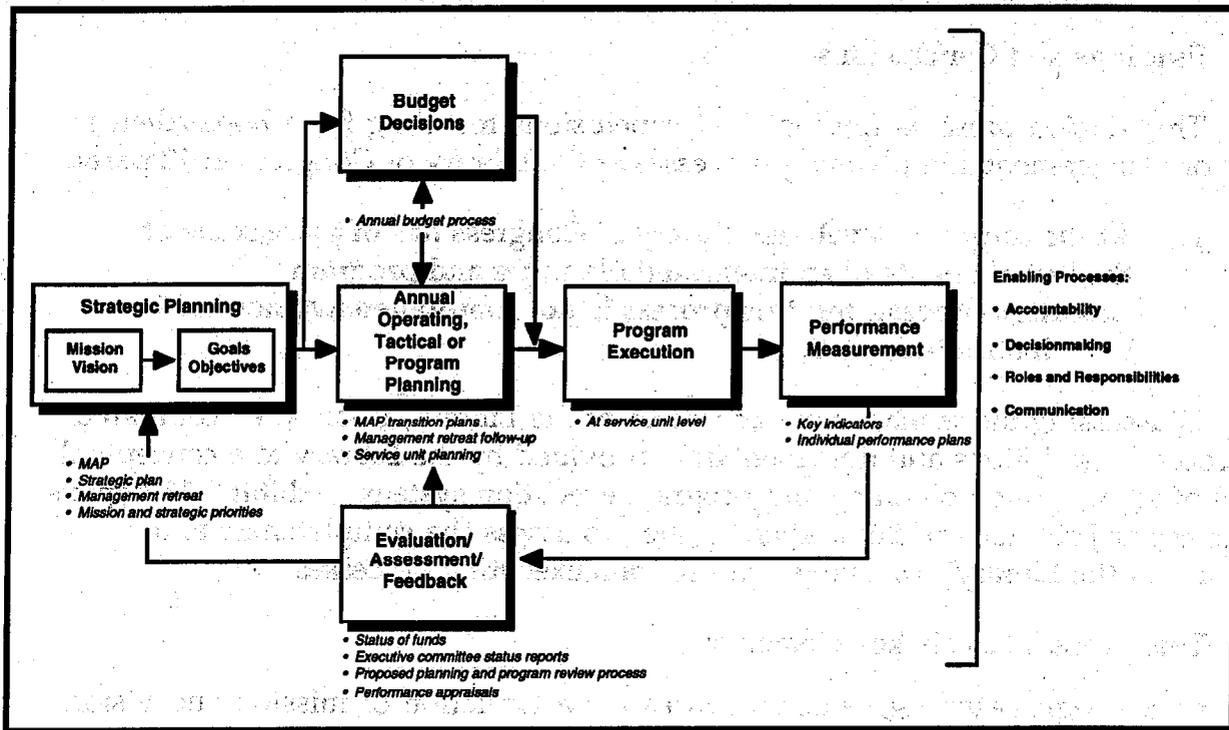
- Strategic planning, which includes the articulation of mission and vision and explicit goals and objectives
- Tactical, operating, or annual program planning, which develops near-term (annual) action plans for implementing strategic plan direction
- Budget development, which ensures that budget allocation decisions are based on strategic goals and annual operating plans
- Program execution, which ensures the delivery of services and programs
- Performance measures, which capture organizational results in terms of both outcome and process, and provide targets of performance against those measures
- Feedback, monitoring, and evaluation, which ensure that all aspects of the planning and program execution process are integrated and implemented in an efficient and effective manner.

In addition to showing the key aspects of the planning and program execution process, Exhibit 2-11 depicts the following enabling processes that support the system:

- Processes for establishing accountability and determining roles and responsibilities
- Processes for decision making and communication.

The exhibit has been annotated to display major Library efforts since 1988 in each of the key elements. These are discussed in turn below.

EXHIBIT 2-11 Key Components of an Integrated Planning and Program Execution Process



2. Although the Library of Congress has initiated several corporate level strategic planning activities since 1988, the process for establishing and revisiting strategic plans is not consistent or formalized.

The Library has initiated four institution-wide strategic planning activities over the last several years. These are as follows:

- The Management and Planning Committee (MAP), its resulting report and transition teams (1988-89)
- The Library Strategic Plan (1992)

- The 1995 Mission and Priorities does not formally refer to the 1992 Strategic Plan or the 1994 Management Review.

The lack of clear, identifiable linkage from one strategic planning effort to the next is an impediment to the effectiveness of planning efforts. The strategic planning process does not document the rationale and progress (or changes in direction) made, both of which are key components to the assessment of priorities and allocation of resources. The lack of a systematic process for assessing progress contributes to the confusion regarding future direction and strategy of the Library voiced by many members of Library management in our interviews.

3. **The institution-wide strategic planning efforts have provided high-level mission, vision, and priorities, but they are not supported by a formal institution-wide annual operating, tactical, or program planning process.**

An annual operating or program plan, which provides the tactical basis for the implementation of the strategic plan, forms the second major step in an integrated planning and program execution process. Although the Library has initiated two operating planning efforts, as shown in Exhibit 2-11, it has not developed an institutional process for translating mission, vision and priorities into an annual operating plan for the entire organization.

In our interviews and analysis of the planning documents provided to us, we found only two instances of operating planning. The MAP report was followed by transition teams, which developed action plans for the recommendations. Although the transition teams developed action plans for the entire MAP report, not all of these action plans were carried through. For example, of the 108 MAP recommendations, the MAP committee determined 43 to be of high priority. Examination of these recommendations indicates that in some cases, such as establishment of arrearage reduction as a primary goal and other collections-related areas, the Library has made significant progress. In other areas, however, such as basic services, planning, budgeting and cost, and human resources, the MAP recommendations still stand. The reorganization plan developed by the MAP transition team was also implemented.

The Management Retreat was followed by development of specific plans for human resources, space, and information technology (IT). The organization responsible for each area developed action plans to address systemic and historical concerns about infrastructure. The action plans for the Management Retreat included the recommended actions, priority, responsible party, and targeted completion date. The subsequent Information Technology Service (ITS) working group responded to the concerns of the Library senior management by stating, "Certainly a number of the issues identified are real while some are issues of perception and/or lack knowledge of operational details. We did not feel our team

should be captive to this particular listing of issues."³ The ITS plan provided target completion dates for 14 of the 48 actions and used terms such as "continuing, underway, ongoing," or blank spaces for the remaining majority of the actions. It routinely uses the terms "exists, underway, or in strategic plan" instead of specifying a responsible officer or subunit for implementing and tracking the initiative. The experience for Human Resources and facilities was similar—significant effort and consensus surrounding issue identification was followed by inattention to follow-up and implementation.

The Library has developed operating plans for specific issues of major concern in some cases. Arrearage reduction, described in the case study in Volume 2, is an example of an issue for which, once identified as a priority in the MAP strategic planning process, tactical plans were developed, tracked, revised, and implemented. Plans were also developed for high-priority issues such as security, but not consistently implemented or tracked. Despite recurrent planning activity and implementation of numerous separate initiatives, security continues to be a major source of concern for Library observers. Security plans are explained in the case study in Volume 2. In the case of facilities planning and the Fort Meade project, a lack of strong planning, analysis, and justification of requirements failed to cause action. The case study in Volume 2 examines the Fort Meade project in greater detail. In the human resources area, plans exist for internal operations of the human resources service unit, but do not integrate those services with Library needs.

Library management develops plans for priorities arising from the outside. Follow-through occurs on an ad hoc basis. In cases where a strong focal point for coordination has been designated, such as arrearage reduction, follow-through is more deliberate. Overall, the lack of an explicit annual operational or program planning process hinders the Library's ability to ensure, on an institution-wide basis, that it has implemented its strategic plan and priorities and achieved its goals. As a result, several managers interviewed expressed uncertainty regarding how Library strategy applied to them or their organizations.

4. The Library has a complete budget process, but it is not consistently or explicitly linked to the strategic plan.

The third piece of the model of an integrated planning and program execution process is the budget and resource allocation process, as shown in Exhibit 2-11. Our analysis of documentation supporting the Library of Congress' annual budget process found that the Library has structured its approach for formulating, justifying, and executing the budget to respond to existing requirements of the Federal budget process. The Library has not yet gone further, however, and *directly*

³ Director ITS memorandum dated December 23, 1994, "Retreat Next Steps" on page 14 of consolidated report "Library of Congress Management Retreat, November 5-7, 1994.

monitoring of funds status. Their financial management role, supported by a regular planning process for the financial management systems at the Library, has not heretofore had a strong policy component. Service unit internal distribution of resources is the responsibility of line management.

In addition, project-based or life-cycle cost estimates, not required by any Library policy or guidance but often part of resource planning efforts, can provide additional insight into the implementation of strategy. Without a process for developing institution-wide estimates for cross-cutting initiatives or for developing understanding of the costs of taking pilot projects to scale, the Library's strategy cannot be translated to budget in a comprehensive manner.

The Library's budget is a one-year document based more on prior year expenditures than on resource requirements associated with a detailed program plan. It does not include out-year estimates, or multiyear planning profiles. In addition, because of the lack of a systems view and operational program planning approach to problem solving, identification of funds associated with specific projects or issues is difficult. For example, we could not readily identify resources across the Library system related to security. Many service units replicate aspects of support services, such as human resources and technology. These serve as examples of areas in which a systems-wide strategy for identifying needed resources would be useful.

5. Program execution occurs at the service unit level and is appropriately the responsibility of the service unit management.

The fourth component of the integrated planning and program execution process is execution or the actual delivery of services and accomplishment of results. Our examination of program execution processes at the Library found that service units are responsible for and direct program execution and operating decisions with minimal involvement of the Library executive management. There is no widely accepted, established process for ensuring that Library mission and vision is a primary driver of program execution decisions. In cases of external attention or institutional concern, service unit heads are responsible for programmatic decisions in the absence of an effective corporate decision-making body. For security, for example, decisions to allocate budgeted resources to implement recommendations of the Library-wide security committee were at the service unit's discretion.

The service units provide the focus for Library activity and are the basis for the implementation of its programs. Responsibility for translating Library-wide priorities and program-specific initiatives rests with service unit management. Service unit heads exercise autonomy in making decisions on the operation of their organizations. These include the responsibility for organizational structure and personnel assignments (subject to labor and human resources regulations and requirements), budget development, funds control, and program execution. In addition, leaders of service units and directorates are responsible for the management processes that guide their organizations.

For major institutional issues, the Library frequently establishes committees or task forces drawn from across the Library. These committees and task forces are charged with developing recommendations, whereas implementation is the responsibility of service units and directorates, which determine the priorities of these recommendations based on their internal workloads and demands. For administrative matters, Library of Congress Regulations (LCRs) provide a structure for institutionalizing major policies and procedures.

Although the Library has not developed a comprehensive process that links program execution to the strategic plan, it has made important strides to execute against several major concerns or priorities identified in its strategic planning efforts. Arrearage reduction, identified as a primary goal in the MAP report, continues as a priority. Activities in the electronic library area, such as the NDL effort, derive from the 1992 strategic plan. In other infrastructure support areas, including human resources, facilities and technology, Library personnel interviewed consistently point to lack of service delivery and reactive operating styles.

Efforts to improve delivery of Library services and increase efficiency and effectiveness of program execution are numerous at the service unit and directorate level. The operational processes section of our report identifies process improvements found at the operating levels. Some of these internally generated initiatives are summarized in Appendix C. These performance improvement initiatives include, among others:

- Efforts to reengineer business processes to improve productivity
- Team based approaches to acquisition
- Cooperative cataloging arrangements.

While examples of innovation and productivity improvement efforts on the part of Library personnel in different parts of the organization are numerous, the Library lacks a process for systematizing the results of these undertakings or sharing experience across departments and services.

- 6. The Library approach to measuring performance does not adequately capture organizational results or provide systematic feedback regarding organizational performance.**

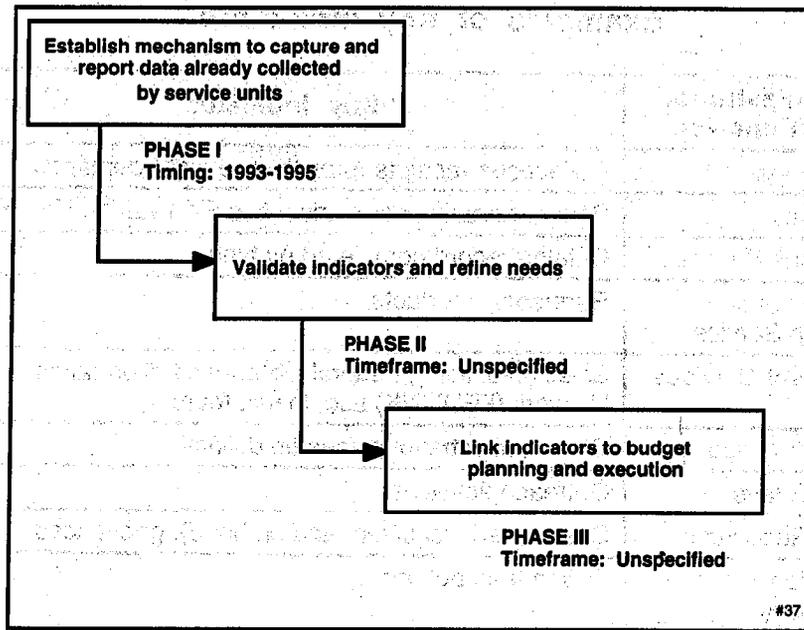
The fifth component of an integrated planning and program execution process, as depicted in Exhibit 2-11, is performance measurement, which provides information on the effectiveness of the operational plans and progress against the achievement of the strategic goals. At the Library, we found institutional attention to performance measurement in two areas:

- The Key Indicators project, which is intended to build the key operating measures of the Library

- Individual performance planning and appraisal processes, which measure key executives' contribution toward achieving the Library's strategic plan.

According to the Library managers interviewed and documents reviewed, the purpose of the Key Indicators project is to provide the Library with key statistical indicators to monitor the Library's performance and accomplishment of its mission. The Library developed a three-phase approach to the Key Indicators project, depicted in Exhibit 2-14, and has implemented Phase I.

EXHIBIT 2-14 Phases of the Key Indicators Project



The first phase sought to establish a Library-wide system for the collection, reporting, consolidation, and distribution of statistical measures, and to make it routine.

Phase II includes expansion and validation of the list of key indicators, establishment of reporting requirements, and development of publication procedures. Phase III includes development of ways to link key indicators to planning and execution of the Library's budget. Development of different types of measures to inform management decision making, establishing targets of performance against those measures, and comparing planned and actual results was not a primary component of the project.

Phase I has been underway since 1991. The Phase I measures and data are summarized in Exhibit 2-15, and provide a good summary of workload statistics for the Library. However, Library's current key indicators do not provide strategic-level measures to guide organizational performance nor do these indicators permit assessment of actual organizational results against the strategic plan and goals. We

determined that the Library key indicators are generally measures of workload rather than a means of tracking progress toward strategic goals and objectives.

The operational processes section of our report further explains Library reporting systems. The Key Indicators project has not yet developed enough to be a system whereby Library strategic objectives are translated into observable and measurable outcomes or whereby performance is tracked with critical indicators that management uses to benchmark the success of functions and activities. Rather, the key indicators effectively capture transactions and workload information for inclusion in the Library's Annual Report and provision to Congress.

EXHIBIT 2-15
Examples of Key Indicators

Organizational Unit/Function	Key Indicator
Acquisitions	Collections receipts, growth, copyright demands
Arrearages	Print or nonprint, comparisons to FY 1989 and last FY
Collections Services	Catalog record completed by type
Congressional Research Service	Requests, products
Constituent Services	Sales (in dollars), Federal Library and Information Network (FEDLINK) use, loans, tours
Copyright Office	Claims, registrations, fees (in dollars)
Cultural Affairs	Outreach activities
Human Resources	Cases (new, resolved, and on hand), grievances
Information Technology	Online transactions
Law Library	Research reports (Congress or other Governmental body)
Public Services	Number of requests from each service unit
<ul style="list-style-type: none"> - Data are provided for current and preceding quarter and show percentage change. - Most numbers are counts of items, transactions, or customer service. - Statistics are shown by organization, in both charts and tables. 	

The proposed Phases II and III of the Key Indicators project appear to more closely reflect a functional approach to performance measurement, to provide useful information for management decision making and guide organizational performance. Phases II and III, however, have yet to be scheduled or initiated. Phase I data reporting became routine and senior management did not direct further action. Setting a time frame for these two phases was not part of the original Key Indicators project plan; no individual or group is responsible for this part of the project; nor does a more comprehensive approach to performance measurement

appear to be a priority for Library management. The individual responsible for the Key Indicators project was reassigned in late 1995. A successor responsible for continuing the process has not been named, although the Executive Committee has commissioned some specific analyses.

In addition to the Key Indicators project, Library managers and staff cited the individual performance planning and appraisal process as the principal means of measuring Library performance. As described to us, the annual performance plans for senior executives form the basis for translating institutional strategy into specific organizational objectives.⁴ The Library's overall mission, goals, and objectives are intended to be integrated into each senior executive's performance plan, which in turn dictates the performance plans of lower levels of management in a cascading fashion. In addition to establishing a process for developing annual performance plans and assessing individual performance against them, the Library has taken steps to attempt to link pay and performance.

We examined 13 senior executive performance plans over 3 years (1993 to 1995) to determine the application of the performance planning and appraisal system. We found that whereas the regulation provides the ability to hold personnel accountable and link senior managers' performance to overall Library goals and objectives, the Library does not systematically implement the system. Exhibit 2-16 summarizes the implementation of the performance planning process for senior executives. Despite their stated intent, few performance plans are tied to the Library's mission in a manner that is measurable or prioritized.

EXHIBIT 2-16
Summary Assessment of Senior Manager Performance Plans

Of 13 performance plans reviewed...	Yes	Partially	No
Are they linked to Library strategy?	2	4	7
Are they measurable?	4	7	2
Are their outputs ranked or dated?	0	0	13

⁴Library of Congress Regulation (LCR) 2017-2.1 establishes the principles, guidelines, and procedures for performance planning and appraisal for senior-level executives. The intent of the appraisal system for Senior Executives is to do the following:

- Appraise managers' contribution to the Library's mission, goals, and objectives
- Enhance individual motivation and encourage excellence
- Increase managerial and organizational accountability
- Provide the basis for performance-related pay adjustment.

7. The primary institutional mechanism for feedback on or evaluation of program efforts is the tracking of the annual budget, which is not an effective mechanism for assessing the achievement of the strategic plan.

Budget tracking and, to a lesser degree, the key indicators, have formed the primary means for the Library to measure performance and status. The quarterly obligations review gives the Executive Committee information on the status of spending and on additional or upcoming needs, and forms the basis for the reprogramming of funds, if necessary. In recognition of the need for more formal collection of information on program progress, the Executive Committee has requested several regular reports in addition to that on the status of funds. These include the following:

- Key indicators pilot status
- Security event report, plan, and implementation status
- Human resources statistics, including diversity
- Audit and investigation status
- Pending legislation status
- Pending acquisitions
- Space plan implementation status
- NDL status and Internet activities and issues
- Litigation status.

It is important to emphasize that although these regular reports provide important data to the Executive Committee, they lack elements of performance, in terms of both outcome (effectiveness) and process (efficiency).

Based on our extensive interviews and review of planning documentation, we did not find a consistent, systematic method of evaluating program progress against the strategic plans and, therefore, did not find a systematic method of feeding this information to executive and senior-level management of the Library for incorporation into planning efforts.

For the 1988 MAP study, we could find no *formal* evaluation and feedback on results, although the Library does appear to have reviewed the status of recommendations on an informal basis. We did find reporting against MAP recommendations in a March 1992 high-level internal memorandum that asserted that nearly 80 percent of recommendations had been addressed, but this was a "rough analysis." No formal process was used to determine status and progress. A February 1992 attempt to initiate a formal assessment of the status of recommendations was not pursued because senior management believed that most recommendations had been addressed.

Before the Management Retreat of 1994, the Library did identify accomplishments against the Strategic Plan of 1992, but this assessment was not rigorous in its evaluation nor did it result in an ongoing, consistent means of evaluating progress against strategic goals. Similarly, the Management Retreat in 1994 did result in a draft integrated planning and program execution process, the Library of Congress Proposed Planning and Review Process, which was circulated to the management team for comment in March 1995, but has not yet been revised or implemented at the Library-wide level.

Based on the documentation the Library provided to us, the Proposed Planning and Review Process represented the only formal proposal for measuring progress against plan that the Library has developed in the last 8 years. The lack of Library-wide processes for assigning, tracking, and monitoring the status of recommendations, progress, and improvement in performance limits the Library's ability to assess its accomplishments correctly and to make resource allocation decisions that optimize achievement of its strategic goals. As a result, the Library is unable, except anecdotally, to ascertain status, monitor progress, and take management action as appropriate. Issues identified in Library-wide initiatives, including MAP, the Strategic Plan, and the Management Retreat, are not routinely evaluated.

A large proportion of the Library management that we interviewed voiced concern and frustration over the lack of follow-through on issues identified in Library planning efforts. Several of the senior managers also stated that they would be reluctant to embark on additional planning efforts until specific proposed actions have been accomplished. This unwillingness is an indicator of the level of concern and could further limit the effectiveness of the Library's planning efforts in the future.

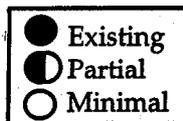
Managers report being unclear about how Library-wide priorities apply to them and their organizations. They are expected to formulate and execute their programs consistent with the overall institutional priorities (most recently described in the Mission and Strategic Priorities) articulated by the Librarian, but there does not appear to be a disciplined or shared process for fostering these linkages.

8. **Whereas the Library overall lacks an integrated planning and program execution process, at the service unit level the degree of implementation of the integrated planning and program execution processes varies from limited to complete.**

As part of the assessment of the Library's processes for planning and program execution, we analyzed the processes at the service unit level as well as the institutional level. Exhibit 2-17 summarizes the results of our analysis for major functions for 1995.

EXHIBIT 2-17
**Assessment of Components of Integrated
 Planning and Program Execution Process**

Service Unit/Function	Strategic Planning	Annual Operating/Tactical Planning	Budget Decisions	Performance Measurement	Evaluation/Assessment/Feedback
Library-wide	●	○	○	○	○
Cataloging	◐	●	●	◐	◐
Preservation	●	●	●	◐	◐
CRS	●	●	●	◐	●
Copyright	●	●	●	◐	◐
Arrearages	◐	●	◐	◐	●
Technology	○	◐	◐	○	◐
NDL	◐	●	●	●	◐
Human Resources	○	●	◐	○	○
Facilities	○	○	◐	○	○
Fort Meade	○	◐	◐	○	○
Security	◐	●	◐	○	◐



The CRS has recently implemented an integrated planning, program execution, and performance measurement process. CRS's process is fairly new; it was introduced and implementation of it was begun in the fall of 1995. *Evaluating CRS Work for the Legislative Work of Congress: Linking Performance Goals with Tidewater Strategies and Actions*, documents the CRS approach for linking vision, mission, and values with goals, explicit strategies, and measures of performance. CRS management places a high priority on the implementation of this integrated planning process. CRS is working to improve its key indicators and other tracking and reporting mechanisms to better reflect and motivate performance.

To varying degrees, other Library Service Units and Directorates have developed their own internal planning and program execution processes. The operations units of Library Services, such as Cataloging and Preservation, have made progress toward implementing all the elements of an integrated planning and program execution process, whereas infrastructure areas, such as Human Resources,

Facilities, and Security have made less progress to date. Exhibit 2-18 describes selected examples of the planning elements in place for several functions.

EXHIBIT 2-18
Summary of Planning and Program Execution Processes
for Selected Library Service Units and Major Functions

Service Unit/Function	Strategic Planning	Annual Operating/Tactical Plan	Budget Decisions	Performance Measurement	Evaluation/Assessment/Feedback
Cataloging	Published vision, mission, and goal statements.	Has a detailed tactical plan, makes periodic revisions. Plans, assigns tasks, responsibility, and dates.	Develops and executes budgets consistent with Library-wide policy.	Developing performance measures, per tactical plan. Does not measure productivity and throughput.	Measures and reports work outputs. Tracks progress against plan.
CRS	Held retreat for long-range planning; prepared strategic plan.	Has an integrated plan of intermediate strategies and actions.	Develops and executes budgets consistent with Library-wide policy.	Holds meetings twice a week, performs customer-focused measures of output and efficiency.	Performs regular tracking; communicates internally; adjusts priority to match requirements.
Copyright	Defined mission, goals, and values in the 1992 strategic planning retreat; takes a participatory approach	Undergoes little change from year to year, but reflects Registrar's priorities. Internal division plans cite section objectives and completion dates.	Develops and executes budgets consistent with Library-wide policy.	Puts together teams and committees for process improvement. Gathers workload statistics.	Has ongoing internal quarterly program reviews. Division plans.
Preservation	Set broad objectives during 1993 long-range planning.	Prepared with limited implementation detail.	Develops and executes budgets consistent with Library-wide policy.	Limited to numerical counts of items processed. Processing time not measured.	Managers recognize need for tracking and control system.
Arrearages	Addresses long-range program in library-wide and service unit documents.	Sets specific numerical objectives annually.	Defined resource requirements at start of multiyear project, but has not separately identified them since.	Tracks numbers of items on quarterly basis. Does not systematically track procedural initiatives. Does not measure efficiencies of varying approaches.	Holds periodic arrearage summits that assess progress and presents findings in an annual report.
Technology	Lacks evidence of a strategic plan.	Has an existing draft tactical plan.	Does not consistently identify resource implications.	Uses a cumbersome work request log. Shows no evidence of performance measures.	Holds sporadic evaluations.
NDL	Has 5-year plan that focuses on digitizing five million items, not strategic objectives linked to library goal.	Has emerging work and program plans that employ a detailed project management approach.	Estimates multiyear funding requirements, appropriations, and donations.	Has a measurement program under development. Holds monthly status reviews that compare progress against plans.	Has working groups that discuss technical and operating issues.
Human Resources	Lacks evidence of a strategic plan.	Pays considerable attention to HR programs and annual activity.	Does not consistently identify resource implications.	Has measures to monitor implementation of CSP resulting from the Cook case. Tracks workload statistics.	Holds sporadic evaluations.
Facilities	Lacks evidence of a strategic plan or master facilities plans.	Lacks evidence of annual planning.	Does not consistently identify resource implications.	Apparently has no measurement system.	Reports inconsistency on evaluations.
Security	Details objectives and actions, not responsibility or dates in the 1993 Strategic Plan Implementation.	Has detailed operational plans.	Uses Collections Security Committee to recommend resource needs. Does not consistently identify resource implications.	Apparently has no measurement system.	Analysis of security and changes to collections policy initiated by Acting Chief of Protective Services.

9. Unclear roles and responsibilities and lack of accountability for performance affect the Library's ability to implement and an integrated planning and program execution process.

Library managers in more than two-thirds of our interviews in the course of this study attributed the Library's inability to systematically implement its plans to unclear or undefined roles and responsibilities and to lack of accountability. External observers from the Library community and Congress voiced similar concern. Many of the people interviewed cited uncertainty over roles and responsibilities and poor accountability as major reasons for the Library's not implementing its strategic plans.

Examples of the deficiencies noted relevant to accountability and roles and responsibilities include the following:

- Lack of a known point-person responsible for planning and policy analysis
- Numerous changes to the Deputy Librarian position and lack of understanding across the institution about the role of that office
- An 18-month vacancy for the position of Director of Labor Relations
- Lack of a training director with a large part of the workforce nearing retirement
- The division of responsibility for technology activities between ITS and the service units
- The lack of an institutional advocate at the Library for long-range facilities planning and an unclear division of responsibility between the Architect of the Capitol and the Library
- The lack of authority to follow through of committee responsible for addressing Library-wide security issues.

The effect of these examples of a lack of explicit roles and responsibilities and unclear accountability is a consistent inability to implement, follow through, and/or build on existing plans and identified problems.

In examining institution-wide management practices at the Library, we sought to identify the organizations and/or personnel responsible for leading the implementation of key processes. From our review of documents outlining organizational functions, we could not identify the positions or individuals responsible for institutional management processes such as strategic planning and performance measurement. For example, there is no planning or policy function at the senior management level or within the Office of the Librarian. Responsibility for the institutional processes of planning, performance measurement, change management, or tracking assignments and action items across service units is not placed with a specific entity. A planning and development office was eliminated around 1989, and no other organization has consistently assumed its Library-wide,

responsibilities.⁵ Appendix D lists other major organizational realignments and staff shifts.

The lack of official charters or written guidelines contributes to confusion surrounding the role of the Office of the Librarian and staff, and of decision-making bodies like the Executive Committee and Senior Management Report Group. Official mission and function statements for elements of the Office of the Librarian have not been revised to keep pace with shifts in responsibility in that office.⁶ (The service units have, for the most part, revised their official mission and function statements as organizational changes have occurred).

Many Library managers interviewed considered the Library's personnel performance planning and appraisal system to be the primary vehicle for ensuring accountability. As discussed above, we found little evidence that the performance planning and appraisal system, specifically that for senior executives, ties individual performance to institutional strategy and outcome. In addition, we found that appraisals are not consistently held in a timely fashion. Exhibit 2-19 summarizes the schedule for the senior managers' performance appraisals that we reviewed. Many appraisals lag behind the performance period by more than a year. For these to be more effective motivators of accountability and performance, the appraisals should occur on a regular annual cycle and be tied to the implementation of the strategic plan. Finally, there does not appear to be a consolidated means of tracking when performance plans are put in place, when progress reviews are conducted, or when final appraisals occur.

⁵ The mission of the former planning and development office, a small group reporting directly to the Librarian, was as follows:

The Office [of Planning and Development, Office of the Librarian] is concerned with long-range planning and program development and is appraising major ongoing programs and their management. It works with Library management staff in formulating policy statements which serve as a basis for shaping the Library's organization and services.

The functions and organization of Management Services, abolished in 1993, focused primarily on support services, including automated systems, buildings management, financial management, personnel and labor relations, photoduplication services, property and supply management, records management and transportation, printing, and communication services. Its functions statement also mentions "participation in formulating and conducting programs for improving the management and organization of the Library of Congress," which could be construed to replace the planning, program development, and evaluation role, but this is not explicit, nor is it mentioned in descriptions of the functioning of that office.

⁶ LCR 211-1, Organization of the Office of the Librarian of Congress, November 30, 1989.

From the documentation reviewed and interviews with Library personnel, we established that the roles of the Executive Committee and Senior Management Reporting Group are clearly evolving. Use of the Senior Management Reporting Group as a conduit to and mechanism for communication from the Executive Committee is an approach in the early stages of implementation. Several managers interviewed were optimistic that the Executive Committee structure would provide for a corporate voice and permit the Library to make difficult decisions and see them through. Others argued that the Executive Committee was not adequately representative of perspectives at the Library. At this juncture, the roles of the Executive Committee and Senior Management Reporting Group appear too ambiguous to achieve their potential as leadership and decision-making bodies.

11. **The Library has put in place a number of mechanisms to increase participation in the management of the institution; although somewhat effective, these mechanisms require further refinement.**

Library management espouses a participatory management approach. A broad network of task forces, working groups, committees, teams of volunteers, and a broad senior management team until recently, has put forth efforts to ensure participation in important Library management processes. Within service units, teams address operational issues on both a routine and an ad hoc basis. These teams have produced some important organizational initiatives to address specific issues within functions. These initiatives include cataloging innovations to address arrears, process improvements, and activity-based costing in acquisitions and others.

However, this participatory approach has not been supported by the institutional management practices that guide decision making and execution. Among the impediments to making this participatory intent fully effective are the following:

- Teams and committees are too large (13 to 30 members) to be more than informational or agenda-setting
- Team or committee leaders lack group or communication skills to lead teams to effective problem solving and decisions
- Processes for timely communication, reporting, review, and funding support are not established.

Numerous Library managers and staff interviewed communicated two perceptions regarding current Library decision making:

- Getting clear senior management support for team decisions is critical, but difficult to obtain
- Important decisions are made by small groups of senior managers through informal means, rather than through formally constituted mechanisms like the executive committee.

Library staff told us that communication regarding decisions is often top-down and unilateral. Despite formal publications and informal channels of communications, Library managers and staff cited lack of strong interactive, two-way communications systems as an impediment to change.

12. In summary, the Library has not integrated or implemented all key components of a planning and program execution process in a systematic or consistent way.

The links among the components of an integrated planning and program execution process, as depicted in Exhibit 2-11, provide for both implementation and integration across functions. At the Library, we found little evidence of explicit, widely accepted processes for achieving these linkages. For example, there is no comprehensive planning and program execution guidance for organizational decision making, nor is there a clearly designated individual responsible for that process. Priorities are not consistently translated into resource implications, nor are recommendations and progress in implementing them tracked in a manner to ensure accountability and accomplishment.

The Library has in place several component parts of an integrated planning and program execution process. In addition, it has taken numerous steps and launched many initiatives to help address current challenges. However, Library management processes are neither integrated nor implemented in a consistent, systematic manner. Mission and vision are not supported by a framework for making decisions that is widely communicated and accepted throughout the Library. Our case studies, referred to throughout this section, support this lack of integration and implementation.

- The National Digital Library program is focused on short-term results rather than on building a sustainable and supportable digital production and access infrastructure. It is managed as an isolated project, rather than as part of an integrated information strategy.
- Planning for use of the Fort Meade facility is not part of a comprehensive facilities strategy, which would serve as the foundation for making decisions, obtaining project approval and funding. Site and facility type requirements were not clearly defined and agreed to prior to action, resulting in changing estimates of space needs and recommended approach, and preventing the Library from proactively solving its storage problems.

- The Competitive Selection Process was redesigned, but resulted in a slow and cumbersome process, widespread dissatisfaction among customers, and subsequently, lengthy study.
- The Library has a number of security problems resulting from a fragmented organization, ineffective management procedures, lack of a clear security policy, ill-defined requirements for collections security, an incomplete risk management process, and no comprehensive security plan.
- Interest in arrearages reduction galvanized Library management and staff, but was not part of a system-wide look at performance that included all aspects of the process. The focus on item counts was not linked with resource requirements or customer needs.

The Library approach to management has been characterized both by Library managers and staff, and by customers representing several different perspectives, as reactive and crisis oriented. What is perceived as repeated inability to move forward on major issues is in part due to lack of strong institutional management processes for implementing plans and ensuring follow through. This lack of attention to management process also prevents the Library from generalizing from service unit and directorate experience to fully take advantage of performance improvement and other initiatives underway in various parts of the organization.

2.2.4 Recommendations

The recommendations below take into account the interdependent nature of management processes. They are intended to help the Library capitalize on its strengths, provide for integration across the institution, and, most important, build commitment to ensuring accountability, proactive decision making, and implementation.

1. **Institute a comprehensive planning and program execution process that builds on elements in place and links plans to explicit mission elements and outcome-oriented measures of performance.**

The Library should put in place a comprehensive planning and program execution process that provides for linkage among the elements depicted in Exhibit 2-11. This requires the following actions:

- Instituting a regular process for revisiting and updating strategy

- Developing annual operating plans based on strategic planning and designed to guide budget decisions and program execution
 - Building on the key indicators effort to develop measures that provide useful information regarding organizational efficiency and effectiveness and are used to assess results achieved against targets of performance
 - Establishing regular mechanisms for providing feedback regarding performance, issue resolution, and potential future areas of concern and effectively using management information systems to this end.
2. **Establish the capability for problem solving and decision making that improves the Library's ability to address concerns that cut across organizational lines and that integrates major support functions with line operations.**

To improve the Library's ability to respond to institution-wide issues and make decisions that affect multiple parts of the organization, the Library should take steps to clarify roles, responsibilities and authorities within the Office of the Librarian and service units, particularly for matters of institutional concern.

The Library should also establish a small group, reporting to the Deputy Librarian, responsible for leading institutional initiatives. No staff function is devoted to development and implementation of an integrated planning and program execution process. Similarly, there is no independent policy analysis function that cuts across the institution. Responsibilities of this group would include the following:

- Developing Library-wide guidance for planning and program execution processes, including seeking ways to integrate planning and resource allocation decisions and to develop better performance measures and feedback mechanisms
- Making the most of the work of existing Library committees and task forces to ensure that expertise and analysis of major issues is used for decision-making purposes
- Leading independent analyses of the program and resource implications of major decisions.

3. Establish the Deputy Librarian of Congress as a strong Chief Operating Officer and invest that individual with adequate authority to lead internal management processes.

Part of the lack of institutional management processes for planning and program execution lies in issues surrounding the role of Deputy Librarian as Chief Operating Officer. The position and role of the Deputy Librarian has been the subject of some debate in recent years, reinforced by the short tenure of those who have served in that position since 1990 and several periods of vacancy. To focus efforts of the institution on implementation, clarify roles, and responsibility and increase accountability, we recommend that the Deputy be designated Chief Operating Officer (COO) with responsibility for implementing the Library's mission and goals. Similar to the role of COO in Executive Branch agencies,⁷ the Library's Deputy role would include the following:

- Providing overall organizational management
- Supporting efforts to develop and implement strategic and operational plans
- Providing leadership for improvement or reengineering of support services
- Championing the development and use of meaningful measures of performance
- Providing operating linkages for external relationships built by the Librarian with organizations, customers and stakeholders, including the Library and publishing communities, scholars, and other national libraries, to leverage Library operations and include stakeholders in decisions.

⁷ A Presidential Memorandum dated Oct. 1, 1993 summarizes the role of the COO in Executive Branch agencies.

- 4. Reinforce the decision making and leadership role of the Executive Committee and clarify the purpose of the Senior Management Reporting Group.**

The Executive Committee and Senior Management Reporting Group structure has the potential to help address decision-making problems, clarify roles and responsibilities, and ensure accountability. The Executive Committee should be firmly established as a decision-making and policy-setting body with responsibilities for overseeing institutional direction and performance. Although the Executive Committee will necessarily have day-to-day operational management functions, its purpose should include paying more structured attention to long-term strategic issues, understanding their potential impact, and providing a focal point for implementation. It should review the Library's progress toward achieving its goals on a regular basis, with its focus being on identifying performance problems and areas of potential future concern.

The Executive Committee should be supported by an active Senior Management Reporting Group, the role of which should be not only to contribute to the deliberations of the Executive Committee, but also to serve as the link between the Executive Committee and Library staff at large. The Senior Management Reporting Group would thereby take on an important role as the Library's management team for ensuring decisions are effectively communicated and implemented, policies followed, and issues raised in a timely manner.

- 5. Improve provision of support services (particularly technology, human resources, and facilities) and better integrate these functions into Library operations.**

Concerns about the ability of Library support services to provide adequate infrastructure for core Library processes has been raised consistently over the past several years. Plans, when developed, are generally not implemented nor are they integrated into Library operations. Efforts to improve the delivery of these services have met with mixed results. The Library should put in place a proactive process to reengineer support services, particularly in the areas of human resources, IT, and facilities. Such an effort to evaluate and redesign support services would include careful assessment of actual needs and would consider alternative means of service provision.

- 6. Institute Library-wide mechanisms to measure performance and monitor results.**

The Key Indicators project plan provides the basis for a more rigorous approach to performance measurement. The Library should move quickly to implement and expand on Phases II and III of the project and then develop a process that includes measures of output, productivity, and customer and employee satisfaction (using employee survey results as a departure point). The development

of a performance measurement system should be an institution-wide effort that is used not only to inform management decision making, but to galvanize improved performance at all levels of the organization. The Library should ensure that meaningful measures are developed, targets of performance against those measures established, and results tracked on a regular basis. Management information systems should also be reinforced to better inform management decisions and make feedback routine.

2.3 ASSESSMENT OF OPERATIONAL PROCESSES

As part of the overall analysis, Booz-Allen profiled the Library's major operational processes to provide a framework for understanding the organizational performance and the factors that influence it.

2.3.1 Background

By focusing on the major operational processes, we developed an understanding of operational performance, organizational and infrastructure relationships, and management perspective. This understanding is the foundation and context for integrating other findings.

2.3.2 Methodology

Our study of the Library's processes took two forms: profiling the Library's processes and detailed examination of the management of two collections (books and photographs). These efforts are explained below.

1. **Booz-Allen profiled the Library collections management, copyright registration, and Congressional Research Service (CRS) inquiry and response processes.**

We profiled the following major operational processes:

- Acquisition and receipt of materials
- Cataloging
- Preservation
- Servicing (providing materials to requesters)
- Disposal
- Copyright
- CRS inquiry and response.

The profiles are made up of flow charts, throughput data, and staffing data for the processes. These profiles are located in Appendices E, F, G, and H.

Booz-Allen's approach to developing process profiles was straightforward. Using existing Library documentation (for example, work flow documents, various studies, and annual reports), we first developed tentative flows for the core processes. Using these flowcharts as a starting point, the team conducted interviews with Library staff to adjust, confirm, and expand each profile. Process information obtained from these interviews included:

- Steps and sequence
- Input
- Approximate time intervals

- Number and type of staff involved
- Results and outputs
- Information systems and databases used
- Decisions and decision-makers involved.

Booz-Allen compiled this information, created the flows, and validated the profiles with Library staff.

2. Booz-Allen also examined how the Library manages its book and photograph collections.

In addition to the overall profiling of collections management, we focused our examination on the monographic book and photograph collections. To accomplish this, we:

- Interviewed Library people involved at various levels of collection management
- Visited work and storage sites
- Observed work in process.

We also attempted to track a random sample of books and two photograph collections received during 1995 from acquisition of the materials through entering them into service.

The results of these two efforts contributed significantly to the findings and conclusions discussed in this section. The appendices for this section include detailed information and descriptions of the processes we observed and profiled.

The remainder of this section on operational processes discusses our findings, conclusions, and recommendations.

2.3.3 Findings and Conclusions

Our findings are grouped according to the conclusions to which they lead, as follows:

- Management of the collections management process
- Collection management infrastructure
- Management of acquisitions and integration with collections management
- Procedures for improving collections management.

Our findings about the Copyright Office and CRS focus on the potential for operational synergism between the processes and resources used in those areas and those in collections.

Appendices F and G, which focus on the Library's monographic book and photograph collections, complement the findings in this section.

From the profiling efforts, we developed an understanding of the flow and characteristics of the major collections processes used in the Library. Essentially, the processes used in the Library are relatively simple, straightforward, serial processes. Little rework and in-process approvals exist because the tenured staff is experienced with the work of Collections, Copyright, and CRS (which is mostly knowledge based). The process used in collections has multiple entry points for the different media and acquisition sources, but for the most part the processes are similar for the different materials.

Because the Library works with more than 400 languages, a broad scope of subject matter, various acquisition channels, and multiple types of media, a number of process complications and exceptions arise as the Library deals with the input variations and the knowledge required to process them. Historically, the Library has dealt with these complexities and variations by organizing resources along specialties of subject matter, geography, language, medium, and acquisition source (depending upon organizational unit). As the amount of published material and the scope of the Library's acquisition activities increase, and the number of resources with specialized skills decrease, the Library's collections process becomes stressed and requires alternative process, technology, and management solutions.

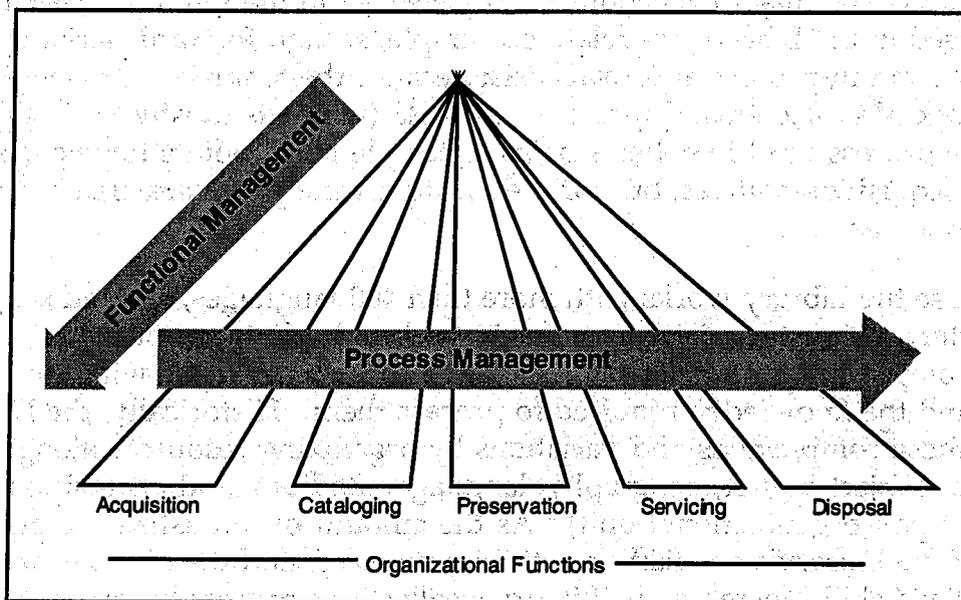
For a more detailed explanation of the processes and the complexities with which the Library deals, please refer to the appendices.

- 1. The Library manages its collections on a functional basis and does not control or measure collection management as a process.**

The fundamental finding from our review of the operational processes is that the Library does not manage or approach collections activities as an end-to-end process. Instead of using a "process management approach," the Library manages divisions and directorates in a classically functional approach.

Exhibit 2-20 illustrates the basic difference between functional and process management approaches:

- The functional management approach focuses on guiding, controlling, and improving functions and resources along and within the organizational structure and components.
- The process management approach focuses on guiding, controlling, and improving the effectiveness of a business process that uses organizational resources to deliver products and services.

**EXHIBIT 2-20
Process Management**

The concept of process management defines, organizes, and manages an organization and support structures in terms of processes rather than functional areas.

This concept is based on the realization that producing a product and delivering a service requires activities and internal processes that cut across the organization. This has the effect of highlighting the integration of, and communication between, people and functions within the organization and its customers. Furthermore, it facilitates the identification of nonvalue-added activities and deals with the administrative activities as well as the process activities. One of the main benefits and purposes of using a process management approach is that it provides the understanding of how to control, manage, and constantly improve how the organization delivers its products and services in response to changing customer demands and input variables.

In practice, process management includes:

- Determining the effectiveness of the processes by using measures of workload, resource availability, utilization, output, and efficiency
- Managing the inputs to the processes
- Linking the process goals and plans with the organizational strategy and goals
- Assigning process "Owners" to oversee and manage the processes and the associated infrastructure support and systems.

Typical results from process management practices include reducing congestion problems from mismatches between the workload of organizational units and their capacity, eliminating variability in workloads, and increasing the consistency in the way work is performed.

Our profiling of the operational processes used in collections management leads to the conclusion that the Library does not manage its collections management process in this manner. The following Exhibit 2-21 shows the collections management process of the Library today.

Note that the collections management process is an end-to-end set of activities that crosses multiple organizational boundaries¹ and is the single mechanism or channel available to deliver the Library's services. Our conclusion is grounded in the total understanding of the processes, as described in Appendix E of this section. The following findings help illustrate the basis of our conclusion.

a. Reporting systems do not provide appropriate visibility of process drivers and controls.

The reporting systems used in the Library are geared mainly to providing information for the Library's annual reports, measuring the levels of arrearages, and producing key indicators. Because the reported data do not relate to process controls or to the key process variables, we were unable to assess the efficiency or effectiveness of the processes we profiled.

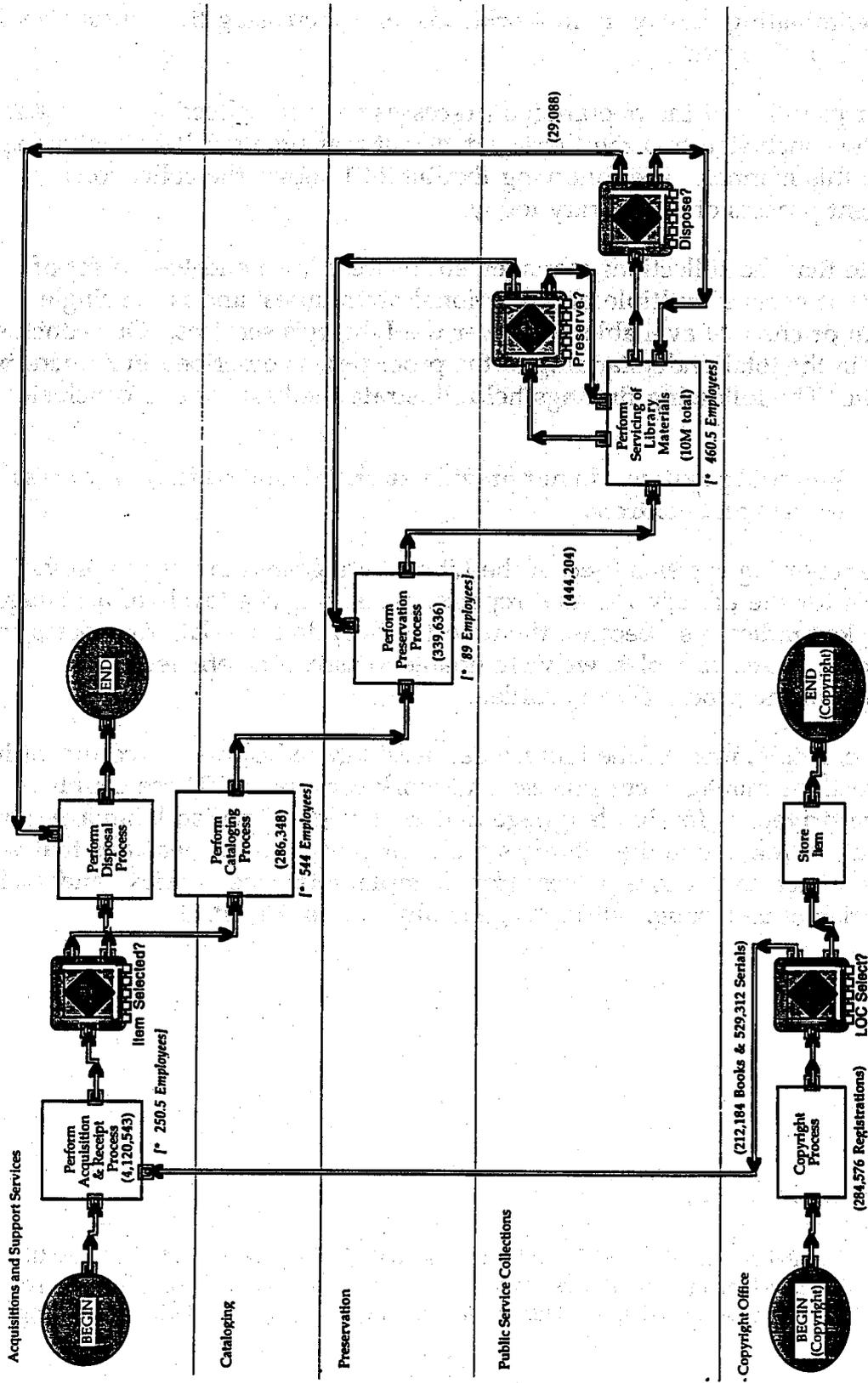
For example, most of the Library Services' key indicators are counts of inputs to the collections management process and work completed. These counts do not reflect such drivers as foreign language materials versus English language materials or work output relative to the Library's different roles. Many measures that we did find are unrelated to the core process (for example, reference queries), and such key process variables as throughput times generally are not reported.²

¹ Appendix E contains more detailed flows for each activity in the process and illustrates that, indeed, the Collections Management Process crosses numerous organizational units, for example, Acquisition, Copyright, Order Division, Overseas Operations, Exchange and Gifts, Cataloging, and Preservation.

² The Cataloging Directorate STARS data do include detailed processing times by cataloging team.

Exhibit 2-21

LOC MAJOR OPERATIONS (for Monographic Books and Serials)



In addition, the various reports use different, largely irreconcilable measures, including:

- Measurement of receipts as either pieces or items
- Measurement of cataloging by titles or by actions (for example, full catalog record completions, recataloging actions, and name change actions)
- Measurement of preservation as bound books versus unbound books.

- b. **Data for many key process variables are not captured by the current systems and, therefore, the process cannot be fully analyzed.**

The data systems used for creating bibliographic records and workload control do not contain sufficient data to allow measurement or analysis of many process variables, either within one process step or across the entire collections process. Because of this, we could not track items through the entire process and could not determine accurate processing times.

The Multi-User MARC System (MUMS) is used to create bibliographic records of the collections, ranging from monographic books and serials to such special collections as photographs and sound recordings. Completed MUMS records include cataloging processing dates and priorities, but do not include data for acquisition, preservation, or servicing materials. Such data are inaccessible, which means that items cannot be tracked through the entire process. Appendices F and G address specific questions about the monographic book and photographic collections that illustrate this point.

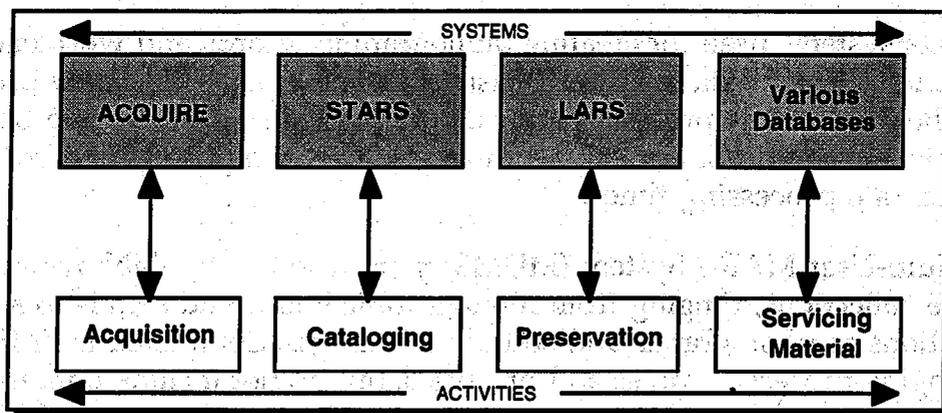
2. **The infrastructure support for collections management process is inadequately integrated.**

The infrastructure support for collections management inadequately supports effective management of the process. The existing information systems are not integrated, do not permit tracking of work in process or location of an item in circulation, and do not support maintenance of inventory records. Additionally, we found no controls or procedures for moving work and materials through the collections process.

a. Individual process data systems are not linked.

In Exhibit 2-21, we identified the automated systems used for work control in the collection management process. As illustrated in Exhibit 2-22, these data systems are not integrated. For example, data in ACQUIRE about the completion of processing of an item in the Acquisition and Support Services Directorate do not flow into a Cataloging Directorate STARS record. Not only must a separate record be created for STARS, but inconsistencies between output from Acquisitions and input to Cataloging occur (see Appendix G dealing with management of the general book collections).

EXHIBIT 2-22
Unlinked Data Systems



b. Data systems do not allow tracking of work in process or provide inventory records.

As described in Appendix G, we were unable to track books through the process from acquisition to service. Some reasons why we could not track the books were:

- The record system for items being acquired does not link to the record system for cataloging
- The acquisition data appear to have entered *ex post facto*, in that dates of receipt by the Library often are later than the recorded start of cataloging
- Once cataloging of a book has been completed, the MUMS record does not indicate whether the book was unbound when it was received, precluding analysis of the processing required in the Preservation Directorate.

Moreover, our attempt to track books through the process and other profiling efforts revealed that:

- Although there is a bibliographic record for each cataloged serial or book title and for lots and items in the special collections, there is no effective inventory system. The bibliographic record contains the requisite cataloging and classification data. While this record signifies that the Library has acquired and recorded the information, it does not enable the Library to locate the item if it is not stored on the shelf. Therefore, there is no effective means of controlling collection items.
 - Except in Cataloging, there is no way to measure or track the time to process items in collections management.
 - Except in Cataloging, there is no effective way to develop standards that could be used to develop consistency and best practices, because the data necessary to develop standards are not captured or tracked.
- c. **Movement of work through the collections management process is uncontrolled.**

The Library typically uses trucks³ to move monographic books and serials through the collection management process. During our review, we found no standard procedure for determining when, by whom, or under what conditions a truck is moved between workstations. Numerous ad hoc practices and understandings among individuals at the various work stations govern the movement of trucks. We found no procedures, practices, or consistency for identifying what items are on a truck or tracking the movement of trucks between workstations.

3. The effects of acquiring large collections are not dealt with in a programmatic or systematic method.

During our profiling of the collections management process, we noted that the coordination of and planning for acquisitions of large collections are not based on systematic analysis of the overall effects of the acquisition on the functional areas of the Library. Such factors as the current collection's arrearage status and the requirements for preservation, cataloging, storage, servicing, and budget are not considered in a coherent or consistent manner. Overall, the acquisition (input to the collections process) is not treated programmaticaly to understand and plan for the workload and the resources required to place it into service in a timely manner.

³ A typical library truck is about 3.5 feet long and 1.5 feet wide, has three shelves, and large wheels. Each truck can carry about 250 books.

a. Acquisition of large collections can overburden the collections management process.

While profiling the collections management process, we frequently encountered references to large collections that were demanding attention and resources. Typically these large collections take a long time (on the order of years) to catalog and place into service, and many times require the borrowing of staff from multiple areas to process. Several examples are:

- **Altschuler jazz record collection.** The Library acquired this collection of an estimated 500,000 78-rpm jazz recordings during 1992. Currently, inventory-level cataloging of this collection is still underway, consuming the services of about 10 people from the Special Materials Cataloging Division of the Cataloging Directorate and the staff of the Motion Picture, Broadcasting, and Recorded Sound Division.
- **Look Magazine photograph collection.** The Library acquired this collection in December 1971. During the 1989 arrears census, the collection was estimated to contain about 5,000,000 photographs. Cataloging of the collection has been underway for about 2 years and will probably continue beyond 2000. Cataloging of this collection is consuming the services of about five catalogers in the Prints and Photographs Division along with scarce storage space.
- **Eames papers.** The Library acquired this collection of an estimated 280,000 pieces during 1994. As we learned during our walk-through of the photographs management process, this collection is one of the top processing projects in the Prints and Photographs Division. As discussed in Appendix I, the Eames collection is one of the processing projects with which our selected photograph samples (the Gladstone and Booker T. Washington collections) are competing for attention.

b. Inputs to the collections, particularly acquisitions of large collections, exceed the capabilities of the Library's current or foreseeable resources to both process and provide proper stewardship.

During our profiling of collections management, we noted that adequate storage space is not available for some of the Library's collections⁴ and some of the staff in Library Services are nearly overwhelmed by, and preoccupied with, digesting

⁴ Please refer to the Analysis on Inputs and Management of Photographs and Monographic Materials appendices.

large collections acquired in the past. The issue of inadequate storage for collections is addressed in Section 3.1 of this report, dealing with facilities management.

Library staff expressed concern that given these conditions, the lack of planning integration for acquisitions, and the continued acquisition of materials, the Library is not always able to fulfill its responsibility and provide proper stewardship for the items it collects.

4. Operating level improvement initiatives are not integrated along the collections management process.

In our profiling and tracking of sample items through the collections management process, we found that the Library's culture fosters self improvement at the operational levels of the organization. This culture has resulted in a number of improvements in specific functions along the collections management process. We did not, however, find a coordinated plan or integration of the initiatives aligned with the collections management process or a higher level set of goals and strategies. As a result, the Library does not obtain the full benefits of its improvement efforts across the collections management process.

Operating level personnel in Library Services have initiated a number of projects to improve procedures and services. For example, some directorates have created and executed plans to guide the improvement of work flows, alignment of staff/skills, automation and control of work and performance measurement, and reduction of workload drivers. For example:

- Institution of the ZIP+4 marking system for incoming Library mailing addresses to reduce the mail sorting workload in the mail room⁵ and expedite the delivery of U.S. Postal Service mail
- Screening proposed transfers of materials (Exchange and Gifts Division) to ensure that only items that *might* be wanted are sent to the Library (for example, reduction from about 11 million items per year to about 2 million items over a period of about 2 years)
- Piloting the use of combined bar code-security tape to permit tracking of work in process and replace heat-applied tapes by the more efficient pressure-applied tapes.

Further examples of operating level improvement initiatives are the pilot organizations and work processes in acquisitions and cataloging, and carrying out surveys and discussions with internal and external customers. Most often, upper

⁵ The +4 digits represent the mail code within the Library.

level management neither promotes nor constrains these efforts and, as such, they are either limited to a functional level scope or left unimplemented.

However, for all of the initiatives examples cited and for many other initiatives of which we are aware, we found no link to an *integrated* effort focusing on improving the collections management process. Moreover, we found that:

- Automation initiatives are neither designed nor synchronized to address multiple needs along the collections management process (for example, across the organization—acquisition, cataloging, preservation, and servicing boundaries)
- Operations are continually hindered by:
 - Lack of information systems architecture and solutions pertinent to the entire collections process
 - Disconnects between facilities planning, acquisition decisions, and operational needs (for example, implementation of whole-acquisition teams).

These conditions indicate that the initiatives we observed are neither driven by, coordinated with, nor supported by, an overall view and stewardship of the collections management process.

5. **The cataloging functions in the Copyright Office and the Library are significantly different in both form and purpose, and offer essentially no cross-organizational processing benefits.**

The Booz-Allen effort looked at the Copyright Office from a process perspective to determine synergism between its processes and those of the Library's collection management. Although the Copyright Office catalogs items, both the purpose and details of the cataloging are substantially different than that performed for either the Library collections or the library industry. One way to illustrate this difference is to examine the data that is obtained and used within the Copyright cataloging process. The Copyright Office uses a system called COPICS to document and track items throughout its processing and operations, including its cataloging process. Of the COPICS's total of 23 data elements, only 6 have any possible overlap with the Library's MARC record. These elements (in COPICS terminology) include:

- Title and Statement of Responsibility
- Edition Statement
- Series Statement
- International Standard Book Number
- Imprint
- Notes.

In general, the Copyright Office performs more of an *indexing* function than library *cataloging*. To have the Copyright Office catalog in the same manner as the Cataloging Division would require a substantial increase in complexity and work load for the Copyright Office. This would increase copyright processing times and costs, and would not yield benefits to the Library for the items not ultimately selected by the Library's Selection Officers.

6. Although CRS is markedly different from other parts of the Library, it faces some of the same challenges stemming from infrastructure support.

Our profiling of the CRS led to an understanding of how the CRS handles congressional inquiries and its responses. We found that, to respond to congressional needs, CRS uses an organization aligned by specialty and subject matter along with a work logging and tracking system, Inquiry Status and Information System (ISIS), to track and count all requests and responses. Similar to Library collections management, CRS employed simple processes to address congressional requests for reference and research (shown in Appendix E).

To help understand the basics of how CRS addresses requests, congressional inquiries come to CRS through three avenues:

- Directly to staff in the divisions (based on knowledge of and relationship between individual CRS and congressional staff members)
- Through the Inquiry Section, which assigns and distributes the inquiry to the appropriate CRS Division(s)
- Through the Congressional Reference Centers.

Regardless of where the request enters CRS, it is input into ISIS for tracking, although many inquiries that go directly to Division staff and the Reference Centers are entered *after* the inquiry is answered. ISIS provides CRS the basis for its monthly reports on products and services delivered to Congress.

After inquiries are received and negotiated⁶ in the Inquiry Section, they are input into ISIS, reviewed, and transmitted to the assigned Division(s). A "fanfold"⁷ then prints in the assigned division, is reviewed and assigned to specific staff for action. The fanfold is then used as the mechanism to track progress and trigger additional information being entered into ISIS.

⁶ Upon taking an inquiry, the staff in the Inquiry Section of CRS discuss the details with the requester to determine the type and format of response needed, the urgency and response time needed, and among other things, clarification of the subject matter and the request. CRS refers to this as "negotiating the request."

⁷ A fanfold is a six-part form, printed off special printers in the Divisions, that is used to track the progress of an inquiry.

In addition to the direct requests, CRS proactively identifies topics of congressional interest and creates reports and a body of knowledge in anticipation of congressional needs.

From the profiling of the CRS, we identified two challenges for the organization:

- a. **Similar to collections management by the Library, CRS uses a number of information systems for storage, retrieval, and tracking that are not integrated into a broader structure to support the CRS processes.**

CRS employs a number of systems to locate, retrieve, format, store, and distribute its products along with a system to track and report on the workload and on the responses for congressional inquiries.

- CRS uses the Public Policy Literature file (PPLT) as a full-text retrieval system for research
- ISIS is the current inquiry tracking system: ISIS 96 is a new, relational database tracking system that is being rolled out to CRS Divisions
- Both STARS and SCORPIO are used to store bibliographic information about CRS products
- Two areas of a database known as CRSX and CRSP are used to store bibliographic information on current and noncurrent products and confidential memoranda⁸
- CRS operates the Research Notification System (RNS) used to notify CRS, GAO, and CBO of ongoing research for coordination purposes
- CRS maintains a homepage for access to its general distribution products.⁹

CRS has also initiated a number of new technologies that support the daily work flow and access to information, and speed up delivery of products and access to information for Congress:

⁸ CRS provides research responses for both general distribution and confidential responses.

⁹ The homepage is not accessible to the general public.

- Both a Voice Response Unit and an Automatic Call Distribution center are used in the Inquiry Section to manage, route, and count incoming calls
- A homepage provides products to Congress in a swift, on-demand basis
- FAX-ON-DEMAND capability helps distribute short CRS products (for example, Reports, Fact Sheets, and Issue Briefs)
- Access to commercially available databases is being provided and coordinated to capture cost advantages
- ISIS 96 is being developed and piloted, and will provide a significant upgrade for CRS staff in that it will provide needed enhancements, allow two-way flow and input from both Inquiry and Divisions, and eventually replace the fanfold.

Today, the tracking and work systems are not linked and integrated along the overall process used by CRS. Because of this, extra layers of work have been necessary for CRS staff to perform, track, and record their work as effectively as it is currently done. Today's use of ISIS and the manual flow of six-part fanfolds, although effective in providing output statistics, exemplify this issue as it requires additional work to capture data on the fanfolds, key it into ISIS, and then rekey some data to generate statistical reports.

- b. **Although CRS tracks significant amounts of data, its focus and use of the information is more transaction reporting than process management.**

CRS uses ISIS to track and report a significant number of "key indicators" and these measures provide extensive information about the output transactions.¹⁰ This information includes the following:

- Number of products provided to Congress by product type
- Number of inquiries
- Distribution counts
- Congressional office coverage and service
- Number of seminar and training events.

CRS uses the key indicators in many ways, from supporting budget requests to providing statistics on CRS output, to determining work load and resources and supporting recent CRS management decisions (for example, closing the Ford Reference Center).

¹⁰ Refer to the CRS Monthly Report for a complete listing of measures.

These measures, however, do not provide insight into content drivers required to determine and create a trend about how many inquiries or how much work was performed on a particular topic.¹¹ (ISIS 96 will not be able to track by topic area either.) Similar to the processes and key measures in the collections management of the Library, CRS should include more of a process perspective in its measurement and management.

2.3.4 Recommendations

Based on the findings and conclusions from our process profiling, we have been able to summarize our recommendations about the operational processes into the following areas:

- Define and manage the Library's operations from a process management perspective
- Plan and manage special and/or large acquisitions as projects separate from the normal inflow of material.

The three recommendation areas are discussed below.

1. Define and manage the Library's operations from a process management perspective.

The processes in the collections of the Library are relatively simple, but complicated by the variations and special needs of media, language, subject matter, and source of the collection items. Currently, Library Services is organized and managed on a functional basis and measures statistics of work performed by the directorates and divisions. Nonetheless, the Library does not match and manage the relationship between the demands and profile of incoming materials and the requirements needed to process the materials.

For the Library to treat and manage its operations as processes, it needs to accept concepts and set up systems that allow it to view the acquisition, cataloging, preservation, servicing, and disposal of collection items as one process that can be understood, managed, and balanced to the strategic direction of Library. To take a process perspective, the Library needs to:

- Understand, track, and manage the input volume and variations
- Plan the work and interpret process measures as an integrated cross-functional flow from acquisitions through to shelving

¹¹ Some searching for topics can be done in ISIS and ISIS 96 by performing a text search, but this capability is very limited and unreliable as it is dependent on the handwritten notes and buffs entered into ISIS after a request is addressed.

- Measure data that provide meaningful information about the controllable variables of the operations:
 - input by volumes and types
 - output by volumes and types
 - process performance in "touch time,"¹² queuing time, transfer time, backlog, and efficiency
 - variation in processing time and throughput
 - location and status of materials while in process
 - trends for both input/product type and subject matter
- Perform "capacity planning and management" that relates inflow of materials to the processing resources
- Develop and align specialized resources to handle specialized input needs
- Assign Process Owners/Stewards to manage and integrate the Collections Management process and its associated support structure and systems including:
 - the integration of existing systems (or the acquisition and implementation of an Integrated Library System) to support the end to end Collections Management process
 - establishing appropriate systems to control, track, and monitor the movement and condition of collection materials throughout the Collections Management process.

One significant facet of the process perspective for the Library collections is managing and controlling the inflow of materials (through collection policies, government transfers, acquisition planning, electronic advancements, and greater industry role) and then equating the inflow of materials with the general and specialized knowledge-resources required to process them.

¹² Actual working time.

2. Plan and manage special and/or large acquisitions as projects separate from the normal inflow of material.

In concert with the above recommendation to adopt a process management perspective and approach, the Library should treat the acquisition of large special collections as separate, individual projects. The Library should create a management process to balance the inflow (acquisition) of materials through better integration of acquisition policy, Library strategy, staff and facilities resources, budget, and prioritization.

Through our study it became clear that, while Library Services has generally been able to handle the normal inflow of materials and has been successful, in some cases, at reducing the inflow of unwanted materials (for example, government transfers), the acquisition of special, large collections stresses the resources and causes delays and arrearages of unprocessed materials. For the most part, the potential acquisition of new collections (for example, "Look" magazine) is known well in advance but is not connected to, and hence planned for, relative to cataloging and facilities.

Special project planning for acquisitions of new collections at Library should:

- Determine resources, time, and space required to process and maintain the new material
- Prioritize the materials against other pending efforts
- Budget appropriate resources for the material (people and facilities)
- Schedule work in accordance with the prioritization before new material is acquired.

3. Explore methods to change the work in cataloging and collections from performing original cataloging to facilitating, managing, guiding standards, and enabling the work to be performed by the information sources and end users.

A significant portion of work in the process we observed is based on locating or providing access to information for others—either about a piece of published literature for cataloging or real time, up-to-date information to address a congressional request. The Library's historic work has been finding, assimilating, coordinating, cataloging, and indexing data created by others and transforming the data into orderly information presented for users. This is especially true in the

collections areas where significant effort is expended to collect and interpret data to properly classify and catalog published works. Given the growth of published materials and the effort and space required by the Library to collect, catalog, and service them, the Library cannot be successful in the long term with its current views, concepts, and practices of collecting, cataloging, and servicing materials.

The Library should explore redefining how it accomplishes cataloging (and potentially collecting) from performing original work to facilitating, managing, guiding, and enabling the work of those who provide material to the Library (such as publishers) and those who use Library collections (such as researchers). By using technology, training, cooperative agreements, and reengineering principles the Library could create mechanisms to share, redefine, and redistribute work along the industry value chain (that is, authors, publishers, distributors, libraries, and users) while maintaining and enhancing its leadership and standards role.

Currently, the Library has operational initiatives that could be a departure point for this type of change (for example, cooperative cataloging efforts with other institutions and the Hispanic Acquisition Team guidelines for publishers) but these efforts have not been designed or undertaken with the intent of supporting this type of a shift.

To further this needed shift, the Library should create a collections development strategy that goes beyond the current Collection Policy Statements and cooperatively guides and integrates acquisition and collections activity across national institutions. Ultimately, these efforts would span international libraries and institutions.

2.4 ORGANIZATIONAL STRUCTURE

2.4.1 Background

The organizational structure of the Library of Congress has evolved over time to focus resources and respond to a series of internal issues and problems. Throughout this report, we discuss issues pertaining to the delivery of Library services. Organizational structure in part determines the ability of the Library to respond to these issues and concerns. This section consolidates organizational recommendations from other parts of this report.

2.4.2 Methodology

Booz-Allen examined the Library's organizational structure by doing the following:

- We assessed the historical basis for the current Library organization. We reviewed past and current organizational structures and identified formal reorganizations, organizational realignments, and personnel shifts.
- We identified areas of this study where organizational issues were a major factor affecting the Library's ability to achieve its goals. Through this analysis, we distilled critical aspects of organizational structure that, if changed, would better support the Library.
- We considered trends in Federal government organizations and best management practices to identify opportunities for increased leverage in the Library organization. These trends are reflected in our recommendations.

Research and analyses based on documentation available from the Library was supplemented by interviews with Library managers and staff about the impact of organizational issues on Library performance.

2.4.3 Findings and Conclusions

The following section addresses Library organizational structure in three parts: past, present and future.

1. **The recent past (from 1988 to 1996) is marked by three major Library reorganizations and numerous shifts in personnel assignments.**

Three major reorganizations of the Library of Congress have occurred since 1987. First, a substantial, Library-wide restructuring followed the Management and Planning (MAP) report and transition teams. This reorganization created the

management team structure, established Collections and Constituent Services as separate services, and realigned support services to report to the management team and the Associate Librarian for Management. At this time, the planning and development office that reported to the Librarian was eliminated. Second, support services were also realigned. The Associate Librarian for Management position was eliminated (1993); Financial Services and ITS subsequently reported to the Office of the Librarian; Integrated Support Services was assigned to Constituent Services; and Human Resources was organized as a separate service unit. Third, this structure was changed in late 1995, as described in more detail below.

In addition, numerous changes have taken place in senior management positions. This lack of stability in senior management posts raises questions about the Library's ability to follow through on organizational realignments. In addition, several managers interviewed stated that individuals and positions are not always well matched, thereby creating another reason for the frequent changes. An historical summary of significant organizational and senior management changes is included in Appendix D, "Selected Major Organizational Realignments and Personnel Shifts, 1988 to 1996."

2. **The present Library organizational structure is based on a reorganization in late 1995 and early 1996 to address repeated concerns about ability to make decisions and hold people accountable.**

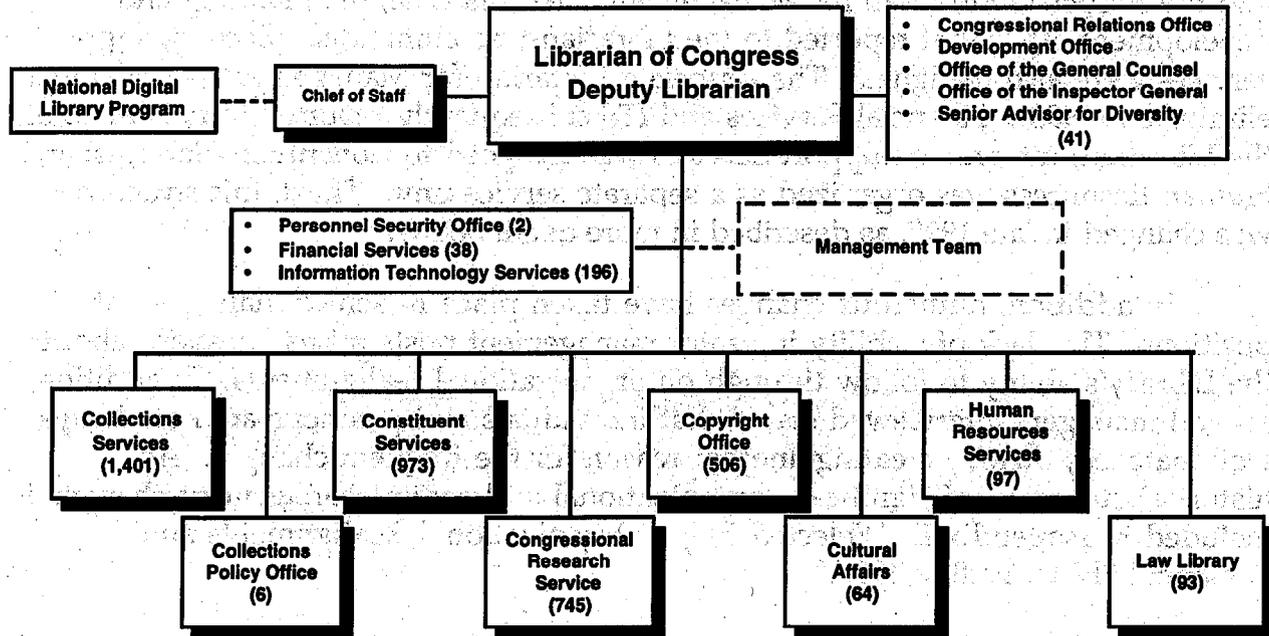
The Library reorganized in September 1995 as follows:

- It realigned Library-wide support services and merged two principal operating units, Collections Services and Constituent Services, into one organization, Library Services
- It realigned responsibilities in the Librarian's office and created a senior Executive Committee to improve top management decision making processes.

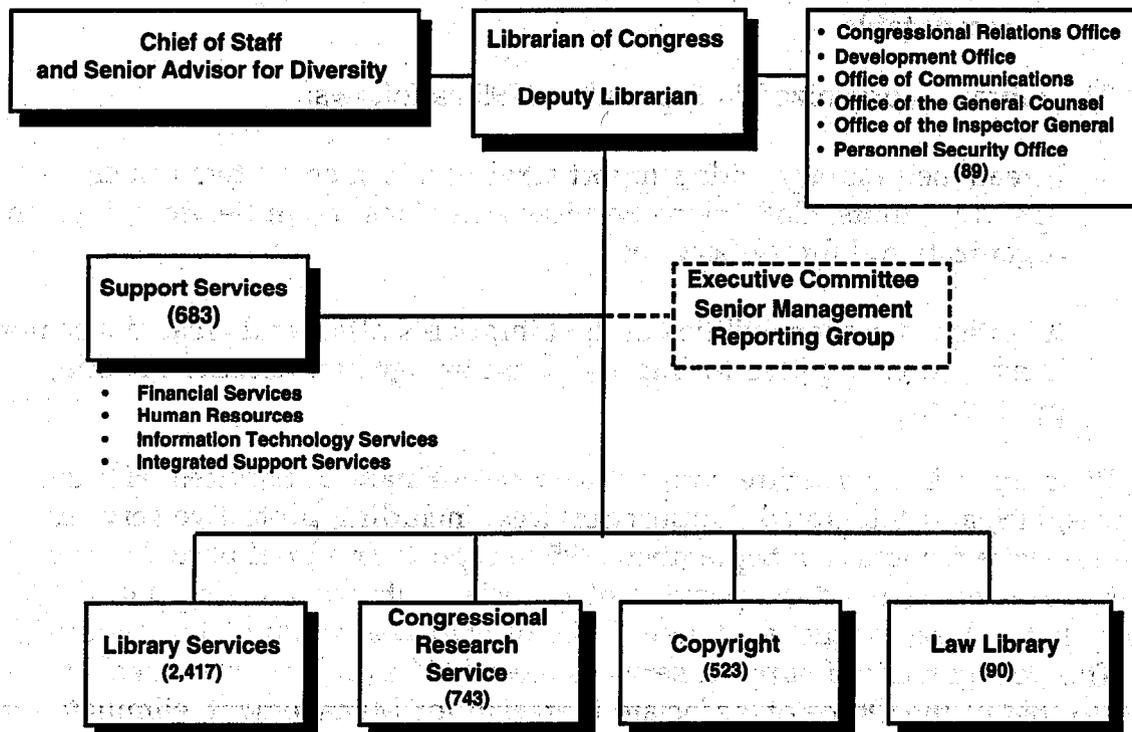
Four main infrastructure support services—Financial Services, Human Resources, ITS, and Integrated Support Services (including protective services and facilities)—were realigned in September 1995 to report for a brief period to the Chief of Staff who later assumed the position of Associate Librarian for Support Services responsible for these functions. A new Chief of Staff was appointed in February 1996. This realignment of support services reestablishes an organizational structure similar to that of the Office of Associate Librarian for Management, eliminated in 1993.

The recent Library reorganization, and the structure it replaces, is depicted in Exhibit 2-23.

EXHIBIT 2-23 Library of Congress Organization Pre-September 1995 Reorganization



March 1996



() Approximate Full Time Equivalent Staff

- Human resources and training, as discussed in Section 4.0, Human Resources
 - Information technology planning, systems development and maintenance, as discussed in Section 3.3, Technology Usage
 - Facilities management, as discussed in Section 3.1, Facilities
 - Security, as discussed in Section 3.2, Security.
6. **Transfer of the Copyright Office from the Library to another organization may not have major operational impacts, and the benefits of such a move are unknown.**

In this review, we considered the organizational relationship of the Copyright Office to the Library, and the potential for transferring Copyright from the Library to another organization. In addition, Booz-Allen analyzed the Copyright Office from a perspective of operational process and revenue contribution to determine potential synergies between Copyright and other Library processes. We did not assess the operations, efficiency or effectiveness of organizations outside the Library of Congress that might be considered potential targets for the copyright function.

We considered four elements of the Copyright Office operations, including:

- The long-standing relationship between the Library and copyright
- Copyright as a source of material for the Library collections
- Linkages between cataloging for copyright purposes and for Library collections
- Revenue potential from copyright receipts.

From this review, we concluded that there is little operational reason for housing the copyright function at the Library of Congress. However, the benefits from transferring it elsewhere are unknown.

Since its creation 130 years ago, the Copyright Office has operated as an independent arm of the Library of Congress. One of the major benefits of this relationship is that copyright deposits are a significant source of material for the Library's collections. Selections officials with knowledge of Library collections

affected by significantly different responsibilities, constraints, and performance requirements than those of the rest of the Library. Consequently, the CRS obtains much of its information from sources other than the Library, and it organizes its operations differently.

CRS does not generally rely on or make extensive use of the Library's collection materials. We found that most reports CRS created are continuous, living documents that require timely information and updates. In general, CRS does not rely on the Library collections, as books do not contain the most current information for the research CRS performs. The research divisions of CRS use mostly journals, serials, association and professional networks, sister-agency publications,² and on-line services for their analysis and research materials. The Law Library is an exception, as CRS does utilize its collection but still maintains its own collection of legal resources necessary for research.

Because CRS maintains the reference libraries in the Congressional Reading Rooms and Reference Centers and has had difficulty locating the Library serial materials in a timely fashion³, it maintains its own subscriptions and collection. Overall, CRS researchers do not rely heavily on Library collections.

2.4.4 Recommendations

To address the Library-wide issues of integration and management accountability and to respond to overall review findings, Booz·Allen recommends the following organizational changes.

1. **Focus management attention on implementing the current organizational structure with certain enhancements.**

Throughout this report, we identify problems with follow-through at the Library. These problems are evident in deficiencies in executing plans, implementing high-priority initiatives, integrating efforts across organizational lines, measuring progress, and learning from past experience. We found the same concerns across the Library organizational units that we examined, although to a lesser extent at CRS.

² The Education and Public Welfare Division recently found that materials collected through Exchange and Gifts from state governments will be of value as CRS performs more work on the devolution of responsibilities from Federal to state governments.

³ The October 1994 study comparing Public Policy Literature File (PPLT) and commercial databases found a success rate of only 42 percent when locating serials in the Library of Congress. Recent discussions between CRS and Collections have yielded a better understanding of CRS's timely needs for serials and have improved CRS's access to the Library serials.

Too often, managers attribute problems such as those identified at the Library of Congress to organizational structure and subsequently redesign the organizational chart. The new Library structure has been in place too short a time for anyone to fully evaluate its success in improving Library productivity and service delivery.

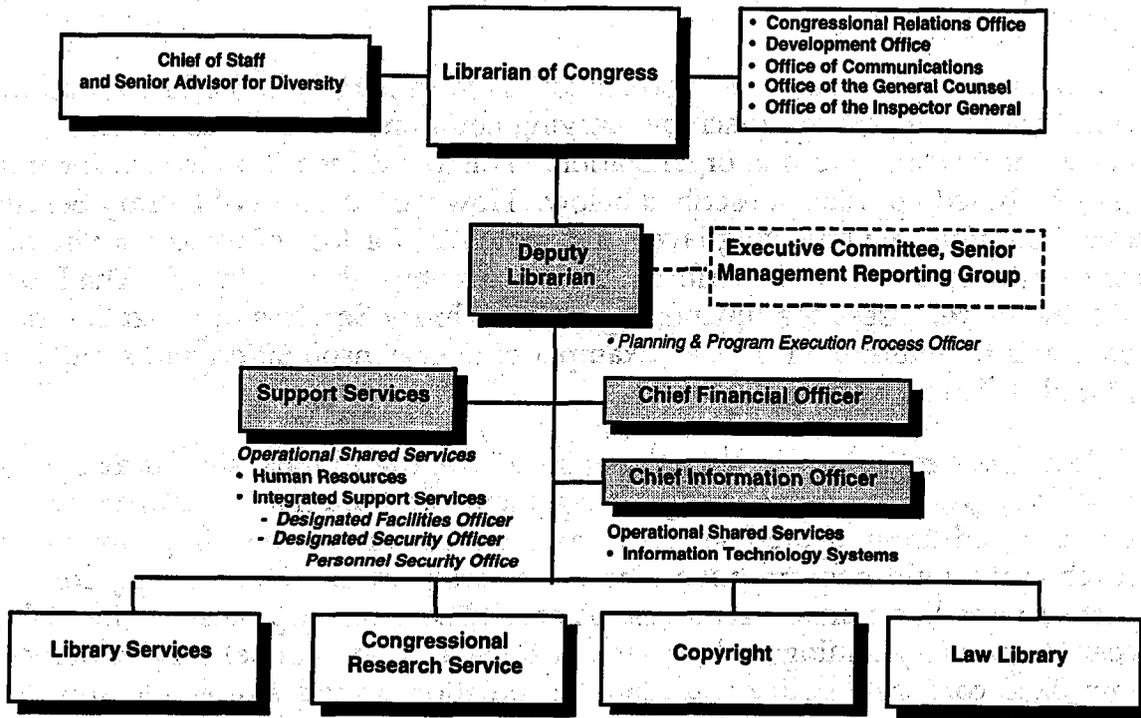
The new Library Services organization may, in part, help the Library adopt a more integrated process approach by merging components of the collections management process into one organization. This provides a framework for moving to the team-based approach described below. However, the size of Library Services organization, multiple reporting layers and potential for loss of focus may impede Library ability to improve its performance and accomplish its mission. The Library should, therefore, assess the functioning of the Library Services organization on a regular basis to determine if it is an example of over-consolidation and should be structured differently.

In implementing its organizational structure, the Library should also consider more actively pursuing outsourcing arrangements and alternative sources of expertise. In addition, shared services arrangements are another implementation approach that would help improve Library service provision, particularly for support services like human resources. A shared services approach distinguishes between corporate planning and policy functions and operational service delivery. A centralized corporate policy and planning function provides direction and guidance from a single source. Service delivery is physically decentralized to customer organizations but maintains its reporting relationship to the shared service organization.

The organizational structure upon which our recommendations are based is depicted in Exhibit 2-26. The main changes include designation of a Chief Information Officer (see Section 3.3) and Chief Financial Officer, and realignment of reporting relationships to affirm the Deputy Librarian role as Chief Operating Officer. In addition, it calls for designation of leadership positions for institutional, cross-cutting concerns, such as facilities (Section 3.1), security (Section 3.2), and planning and program execution processes (Section 2.2).

EXHIBIT 2-26

Recommended Organization



We do recommend that the Library take proactive steps to focus management attention on making the newly established organizational structure work. These steps should include clarifying roles and responsibilities and improving management and operational process and service delivery across the institution. The main elements of an approach to improve the functioning of the Library from an organizational structure perspective are discussed in the recommendations that follow.

Although our analysis showed few strong operational links between Copyright and Library Services and between the CRS and Library Services, we did not find substantial evidence to support moving those functions from the Library. Rather, until a complete assessment is made of the costs and benefits, for both the Library and a potential receiving organization, of moving CRS and Copyright, any organizational shift should be pursued with extreme caution and considered premature. Restructuring those functions to other organizations is likely to cause severe disruption and damage to their service delivery.

- 2. Establish a permanent Deputy Librarian as the Library's Chief Operating Officer and clarify the role of that position by investing it with Library-wide operational decision-making authority.**

Our analysis of the Library's institutional management processes identified the need for improved integration of planning and execution. The Library has made several efforts to establish planning processes over the past several years that link strategic, operational, and functional planning and implementation. However, the shifting roles, inadequate accountability methods, and insufficient information for decision making have resulted in a lack of integration and follow-through. Clarification of the role of this position so that the occupant will have Library-wide operational decision-making authority as well as resources to perform as a COO should be a critical Library priority. As part of the strengthening of the Deputy role, the Executive Committee and service unit senior management currently reporting to the Librarian should report to the Deputy. A recommendation pertaining to the functioning of the Executive Committee is included in Section 2.2, Assessment of Management Processes.

- 3. Elevate the Chief Financial Officer's position to focus attention on improving the Library's financial systems and controls.**

A comprehensive discussion of the financial operations of the Library and specific weaknesses found is contained in the Price Waterhouse report that was prepared concurrent with this report.

- 4. Establish a Chief Information Officer position to provide leadership in technology across the organization.**

The Library should establish a Chief Information Officer (CIO) position to help implement an effective IRM strategy that integrates the requirements of the Library's broad commitments to internal and external customers. The CIO should be an integral member of the decision-making management team and should be included as a member of the Library Executive Committee. Information technology support infrastructure is the most fundamental enabling capability for the Library to effectively function in the information age. Technological innovations currently provide methods for increasing efficiency and productivity of selected functions but are now essential for performing nearly all the basic Library functions.

The most fundamental Library-wide infrastructure is the information infrastructure. Library operations are information and transaction intensive. A significant weakness of the Library of Congress is its current IT infrastructure as identified in Section 3.3, Technology Usage. Addressing this issue to position the Library for the rapidly evolving IT environment, as well as transformation of the role of the Library to an information broker, requires leadership and Library-wide

focus. The CIO role might also include serving as a catalyst and integrator of Library research and development processes.

5. **Assign leadership and responsibility for major processes to "process owners" or "process champions" who have authority to provide leadership across organizational lines.**

Ensuring that the Library's management and operational processes are effective and continually improving requires specific assignment of responsibility for "process stewardship." We recommend that explicit process owners be established in three areas. The problems in these areas are discussed throughout the report. The Library should consider applying this approach to other issues and institutional concerns as well.

The Library should designate a senior official should be designated to lead the development and implementation of a comprehensive, integrated planning and program execution process. The most fundamental Library management process requiring stewardship is strategic and operational planning, and implementation. Whereas there is some organizational cynicism regarding planning at the Library because of a sense of lack of integration, follow-through, and accountability, the Deputy Librarian should be tasked with establishing effective Library-wide planning processes executed to ensure accountability and implementation. This effort should include designating staff for developing and coordinating the implementation of an integrated planning and program execution process, with explicit attention to performance measurement and tracking.

The Library should designate senior leadership and responsibility for Library security. Process ownership concerns also have been raised in the security area, as Library-wide security is not the responsibility of a single individual. Collections security is the responsibility of the division chiefs, collection managers, and Library officers who have custody of the materials. The Protective Services organization has the responsibility to assist in maintaining a security controlled environment. The guard force and security systems for Library facilities or collections located off of Capitol Hill are not the responsibility of Protective Services. The collections security officer, or similarly designated leadership position, would be charged with protecting the Library's collections from all forms of risk.

The Library should assign a senior executive with the lead role and responsibility for facilities management. Resident in the support services organization, strengthening this position will help the Library plan and execute facilities decision in a more proactive, efficient and integrated manner.

6. **Implement a process- and team-based organizational structure within Library Services, and potentially, other services.**

The current Library Services organization is a large (approximately 2,100 employee), hierarchical, functionally based organizational structure with more than

200 organizational units (6 directorates; approximately 50 divisions, offices and projects; and more than 150 sections). Whereas this organization was recently established to achieve greater coordination and integration, without a significant organizational thrust toward integration, the barriers and junctions identified throughout this report will continue to persist. Library Services should move to extend team organization pilots, which have been in place for many years throughout the collection management process. The success of this team approach is a function of strong leadership and development of team skills to ensure follow through and innovation. Overall, Library Services needs to identify the appropriate team/organizational relationships and levels to assist in overall collection management processes.

Currently the Library does not manage the relationship between the demands for and requirements of processing incoming material. As noted in the Section 2., Assessment of Operational Processes, the systems and infrastructure support tools are not integrated to facilitate and track work from the beginning of the major process through to the end (for example, acquiring, processing, and servicing collection materials and receiving, researching, and replying to congressional inquiries). The Library should expand and implement the whole-team approach piloted in acquisitions and cataloging and adopt an organization of process and support teams aligned with the major process. This type of structure and alignment would enable and facilitate both a process management focus and the development of integrated tools.

A process- and team-based structure would assist in removing barriers between sections and divisions throughout the processes, assist in formulating indicators for process-wide measurement and performance strategies for planning and measuring improvement. Process-based structures also provide greater flexibility to staff for identifying and addressing process bottlenecks.

2.5 REVENUE OPPORTUNITIES

As part of the overall assessment of the Library of Congress, Booz·Allen explored the potential revenue stemming from existing or additional fee-based services. In order to frame the discussion and understand the issues involved, we selected to explore in detail four services that the Library provides:

- Full recovery of copyright registration costs—an analysis of all costs related to registering a claim with the Copyright Office and a determination of the unit cost derived from the full cost
- Charging publishers a fee for cataloging—an analysis of the full cost to catalog a book and a determination of the unit cost to be charged
- Charging commercial researchers a fee for using Library services and facilities—an analysis of the cost of supporting commercial researchers and their requests
- Charging fees for interlibrary loans—an assessment of the costs associated with fulfilling loan requests from other domestic libraries.

The major purpose of the review of the four service areas is to determine the potential for additional revenue and to explore the issues related to increasing existing fees or implementing additional fee-based services.

2.5.1 Background

The Library began assessing potential fee-based services in 1988 in the Management and Planning (MAP) report; the Arthur Young report of 1989 further explored potential fee-based services. Whereas these studies identified services that could provide additional sources of revenue, they did not fully investigate, evaluate, and recommend the opportunities and the revenue potential. This analysis investigates more fully the opportunities and issues related to the four service areas. The specific objectives include the following:

- Determination of the revenue potential
- Assessment of Library's cost accounting data and support structures required to implement fee-based services
- Analysis of legislative/stakeholder issues, which affect implementations
- Analysis of other options for providing the services, such as outsourcing
- Comparisons with benchmarks/best practices from similar organizations.

The four services selected for analysis can be considered representative of the types of fee-based services the Library might pursue to increase its revenue base. As such, the analysis of the selected services illustrates the Library's concerns in implementing fee-based services and provides a framework for qualifying and assessing revenue opportunities.

2.5.2 Methodology

To assess the revenue opportunities represented by the four service areas, Booz·Allen developed an approach that focused on the key data and assumptions behind the delivery of the services. Our methodology followed two major tracks: financial cost analysis; legislative and stakeholder analysis – focused on possible reactions to fee-based services and the effects on revenue.

We used three major sources of financial and cost data: budgets for the service units or divisions involved; General & Administrative overhead rates, calculated by Price Waterhouse in 1994; and estimated facilities costs, based on the work done by the Facilities Team in this study.

In evaluating opportunities for revenue-generating services, we did the following:

- Weighed the benefit of additional revenue against the risk of a decline in demand for these services as fees increase
- Considered the arguments of constituents who would oppose the charging of fees for services that have been historically subsidized by taxpayer dollars
- Reviewed the legal authority to charge or change fees and reviewed draft and proposed legislation related to the charging of fees
- Evaluated each revenue opportunity within the broader context of the Library's overall mission, to mitigate the risk of recommending a change in fee structure that could fundamentally undermine a separate but critical element of the Library's mission
- Assessed some practical components of introducing or changing fees, such as the following:
 - Training staff to adopt more of a business mentality as opposed to the service mentality that exists today
 - Enforcing new fee-based services, especially taking into consideration the large definitional issues around some of the areas proposed for review.

Financial and Cost Analyses

For each of the services studied, we conducted interviews in the relevant organizational units to obtain information Booz-Allen needed to allocate costs for an effective analysis. Using the data available and the assumptions we established, we developed cost models for each of the areas. We developed an overall cost model based on full allocation of costs and then conducted sensitivity analyses to determine the ranges of costs and their potential impact on the Library and the affected users. In addition to examining the financial data, we also examined the supporting financial mechanisms that allow effective maintenance of fee-based services.

Legislative/ Stakeholder Analysis

Similarly, we assessed the legislative environment in which the Library would be introducing the potential fees. We reviewed draft legislation related to fee-based services for the last 5 years to understand the concerns that have led to changes in the proposed legislation. We also reviewed the testimony key stakeholders gave during the hearings. We supplemented the testimony with targeted interviews and with the Mission Focus Groups, which directly addressed services and fees as part of their review.

Based on the financial and cost analyses, we developed individual cost and revenue models for each of the products studied. From these models, we developed the analysis of the revenue potential and the issues the Library faces in implementing fee-based services. These analyses form the basis for the findings and conclusions outlined below.

2.5.3 Findings and Conclusions

- 1. Opportunities to increase the revenue stream of the Library of Congress do exist and vary significantly in the level of additional funding they may provide.**

Exhibit 2-27 summarizes the overall revenue potential associated with recovering full costs in each of the four areas we analyzed. As the exhibit indicates, we provide a range of potential revenue for some areas. This range reflects the fact that different assumptions lead to different results for full cost recovery.

As the table indicates, we have not estimated the revenue potential from charging commercial researchers. Because the Library service units or divisions do not maintain any records regarding the number of commercial researchers who exist or the amount of staff time committed to supporting them, it is extremely difficult to estimate revenue for this service. We did, however, estimate an hourly rate that could be charged to commercial researchers. This hourly rate is discussed as part of the unit cost analysis, which follows.

EXHIBIT 2-27
Overall Revenue Potential Based on Full-Cost Recovery

Fee-Based Service	Current Fee Receipts (\$000)	Potential Revenue Under Full-Cost Recovery (\$000)
Copyright Registration ¹	12,600 ²	24,000 to 29,400 ³
Charging Publishers for Cataloging	0	7,500 to 7,600
Interlibrary Loans	0	578 to 678 ⁴
Charging Commercial Researchers	0	Not Available
TOTAL	12,600	32,078 to 37,678

To derive the potential revenue, we developed a cost model to analyze the full cost of the services. This cost model is shown in Exhibit 2-28.

To evaluate the total cost of the resources required for each service, we used budget appropriations for FY 1995 for each of the service areas. Based on our interviews with key representatives of the relevant service areas, we developed assumptions on how services were provided. From the assumptions, we developed allocation rules and distributed the costs across the products and services.

¹ The analysis of potential revenue specifically excludes Acquisitions, Licensing, and the Copyright Arbitration Panels (CARP), but includes all other aspects of Copyright. While some Copyright activities may perhaps be excluded from cost recovery, we were unable to refine the estimates to exclude these activities due to the limitations in the data available. The potential revenue from full cost recovery, therefore, could be somewhat smaller than the figures cited here.

² This figure excludes fee receipts for Special Handling and Expedited Services and reflects only fee receipts from registrations.

³ This range in potential revenue under full-cost recovery is predicated on comparing actual FY 1995 fee receipts to the full cost of the copyright registration process. In order to highlight the difference between current receipts and full cost recovery, the analysis does not take into account possible changes stemming from a fee increase, such as the potential drop in the number of registrations.

⁴ This analysis excludes the revenue that could be generated through international loans. The Library announced it would resume international lending for a fee in February 1996.

EXHIBIT 2-28 Cost Model

Cost Category	Allocation Basis	Copyright Registration (\$000)	Charging Publishers for Cataloging (\$000)	Interlibrary Lending (\$000)	Charging Commercial Researchers (\$000)
Compensation/ Benefits	FY 1995 Budget	22,163	34,301	468	Not Available
Travel	Usage	87	86	Not Available	Not Available
Postage/ Telephone	Number of Employees	795	86	110	Not Available
Printing/ Photoduplication	Number of Employees	175	58	Not Available	Not Available
Other Services	Number of Employees	294	170	Not Available	Not Available
Office Supplies	Number of Employees	208	0	Not Available	Not Available
Books & Materials/ ADP Equipment	Number of Employees	122	21	Not Available	Not Available
Subtotal (FY 1995 Budget)		23,844	34,722	578	Not Available
Overhead	Percentage of Compensation/ Benefits	4,743	7,340	100	Not Available
Facilities (On-site Cost)	Cost per FTE	0	0	0	Not Available
Subtotal		4,743	7,340	100	Not Available
Total Cost		28,587	42,062	678	

Two key findings came out of our analysis of FY 1995 appropriations. First, we learned that the Library budget does not allocate overhead costs fully to each of its service units. As a result, the budgeted amounts do not incorporate a significant portion of the actual costs of the service, such as overhead costs associated with paying for custodial services, protective services, and utilities. Nor do budgeted amounts provide for lease payments by any of the services (the Library occupies buildings that are fully paid for and maintained by the Architect of the Capitol). Therefore, to account for all costs and assess the cost impact of potentially moving certain services off-site, we added the following indirect costs:

- **Overhead**—based on the rates computed by Price Waterhouse for the Library in March 1994
- **Facilities**—based on estimates provided by a commercial real estate agency for leasing space if Library functions were moved off site.

Second, we learned that the Copyright Office derives its total budget figure from a functional breakdown of the office. In other words, separate budget figures exist for the divisions that support the basic registration, the acquisitions, the licensing, and the arbitration functions. By contrast, the Cataloging in Publication (CIP) division, the loan division, and the various divisions that support commercial researchers do not receive detailed budget figures from their service units. Accordingly, for interlibrary loans and commercial researchers, we broke down the service unit budget to estimate costs associated with the individual divisions we studied.

After developing the full-cost model for each service area studied, we performed sensitivity analyses against the model to demonstrate how changes in the way services are provided would affect both potential revenue and the potential fee. Exhibit 2-29 provides descriptions of the sensitivity variables we used for each service.

**EXHIBIT 2-29
Sensitivity Variables**

Service Area	Sensitivity Variable	Description
Copyright Registration ⁵	Full Cost On Site	⇒ Allocates full cost based on number of claims; assumes service unit remains on Capitol Hill
	Full Cost Off Site	⇒ Allocates full cost based on number of claims; assumes service unit moves off site
	Productivity Improvements On Site	⇒ Copyright Office estimates current staff operates at 80% productivity; reduces labor cost by 20%; assumes service unit remains on Capitol Hill
	Productivity Improvements Off Site	⇒ Copyright Office estimates current staff operates at 80% productivity; reduces labor cost by 20%; assumes service unit moves off-site
	Claim Type On Site	⇒ Allocates full costs based on resources consumed by claim type; assumes service unit remains on Capitol Hill
	Claim Type Off Site	⇒ Allocates full costs based on resources consumed by claim type; assumes service unit moves off site
Charging Publishers for Cataloging	Full Cost	⇒ Allocates full cost by divisions within service unit; assumes service unit remains on Capitol Hill
	Off Site	⇒ Modifies facilities cost assuming service unit moves offsite
Interlibrary Loans	Unsubsidized	⇒ Assumes libraries pay only for their own filled loans; Congressional requests paid through appropriated funds
	Unsubsidized Without Indirects	⇒ Same as unsubsidized; excludes indirect costs

⁵ One of our sensitivity analyses is based on the Copyright Office's relocating off-site. The off-site cost analysis does not suggest that the Copyright Office should become a separate government agency. Rather, it is intended to explore only the effect of an off-site location on costs and potential fees.

Service Area	Sensitivity Variable	Description
	Subsidized	⇒ Assumes that filled requests to libraries subsidize filled requests to Congress
	Subsidized Without Indirects	⇒ Same as subsidized; excludes indirect costs
Charging Commercial Researchers	Loaded Hourly Rate	⇒ Includes overhead costs in deriving hourly rate
	Unloaded Hourly Rate	⇒ Excludes overhead costs in deriving hourly rate

Exhibit 2-30 summarizes the impact on potential revenue when analyzing full cost against one of these sensitivity variables.

**EXHIBIT 2-30
Potential Revenue Using Sensitivity Analyses**

Fee Based Service	Current Revenue (\$000)	Sensitivity Analysis (\$000)					
		Full Cost On Site	Full Cost Off Site	Productivity Improvement On Site	Productivity Improvement Off Site	Claim Type On Site	Claim Type Off Site
Copyright Registration	12,600	28,600	29,400	24,000	25,000	28,600	29,400
Charging Publishers for Cataloging	0	On Site 7,500			Off Site 7,600		
Interlibrary Loans	0	Unsubsidized	Unsubsidized w/o Indirects	Subsidized		Subsidized w/o Indirects	
		678	578	1,600		1,400	
Charging Commercial Researchers	0	Loaded Hourly Rate \$28.58/hour			Unloaded Hourly Rate \$23.54/hour		

In many instances, the Library receives benefits in kind from the customers of the services we evaluated, such as copyright registration and cataloging. The value of these benefits in kind should be considered when deciding to set fees that recover full cost. Exhibit 2-31 takes into account offsets for the value of the items obtained for the Library through each service and provides revised estimates of potential revenue, assuming offsets:

- For copyright registration, this value consists of materials kept by the Library for its collections. While different figures exist within the Library

for this value, the best estimate appears to be \$13,296,000 annually.⁶ This figure is lower than the \$20,158,594 cited in the annual report of the Copyright Office. This difference is due to the fact that Copyright, for its annual report, counts items using the definitions of the copyright system. Additions to the collections are counted using conventional library definitions of materials, which reduces the quantity and the unit price used to value the items.⁷

- With respect to interlibrary loans, the Library borrows less than 2 percent of what it lends. Items borrowed service the Congress and internal library uses exclusively. We assumed a *quid pro quo* reaction from the library community when calculating the offsetting value for this service. In FY 1995, 353 loans were made to the Library. Assuming the same interlibrary loan rate we estimated, the value of loans to the Library approximates \$11,000.
- Using the average price per book in calculating part of the copyright registration figure, we estimated that the value publishers provide for cataloging through the Library amounts to \$1,670,000 annually.

⁶ This figure is based on a Working Draft of a report entitled "Acquisition of Material for the Collections of the Library of Congress," dated February 28, 1996 for the period 1993 through 1995. This report was written by the Senior Advisor to the Librarian of Congress and concludes that "...the entire valuation process needs systematic study and attention."

⁷ The Working Draft of the report "Acquisition of Material for the Collections of the Library of Congress" states, "Copyright Office reports that it turns over an average of 816,000 items a year, with an average dollar values of \$17.1 million [1993-1995]. However, a review of these figures clearly indicates that the quantity is too high, and the unit pricing method is not reliable..."

EXHIBIT 2-31
Revenue Analyses Offsetting Value of Items Received

Fee-Based Service	Current Fee Receipts (\$000)	Potential Revenue From Full-Cost Recovery (\$000)	Value of Items Received (\$000)	Potential Net Revenue (\$000)
Copyright Registration ⁸	12,600	24,000 to 29,400	0	24,000 to 29,400
	12,600	24,000 to 29,400	13,296	10,704 to 16,104
Charging Publishers for Cataloging	0	7,500 to 7,600	1,670	5,830 to 5,930
Interlibrary Loans	0	578 to 678	11	567 to 667
Charging Commercial Researchers	0	Not Available	Not Available	Not Available
TOTAL	12,600	32,078 to 37,678	14,977	17,101 to 22,701

To evaluate the effect of increasing fees or introducing fees for services that are currently provided *gratis*, we looked at the change in unit costs from a customer's perspective. Under this analysis we developed a proposed hourly rate to charge commercial researchers. Calculation of this hourly rate is based on the following assumptions:

- The average grade of a reference librarian is GS-12
- Benefits and overhead costs are incorporated in the rate
- Reference librarian demands on their management staff are minimal, resulting in no allocation of division management costs to the hourly rate
- Equipment depreciation costs cannot be estimated for individual divisions. They are not included as they are borne by the service unit
- Since commercial researchers are likely to use more than one reading room, we derived a single hourly rate.

⁸ The first row assumes the Copyright Office would continue to receive copies of registration material at no cost as currently legislated. The second row assumes the Library would purchase \$13,296,000 of materials for the collections which it receives today at no cost. We predicate the latter assumption on the fact that Copyright Law, as currently written, provides copyright protection regardless of whether or not the creator submits a registration.

Exhibit 2-32 outlines current fees and potential unit costs/fees under full-cost recovery. For the four services we studied, this exhibit compares proposed unit costs to the costs of related services provided by other institutions and research libraries. The proposed unit cost/fee assumes full cost recovery.

EXHIBIT 2-32 Potential Revenue Unit Costs

Fee-Based Service	Current Unit Fee	Proposed Unit Fee	Fee for Similar/Alternative Services
Copyright Registration⁹			
Serials	\$20	\$38-\$47	<ul style="list-style-type: none"> • The Patent and Trademark Office (PTO) maintains a fee schedule with 145 fees; 40 of these fees include different amounts for small and large entities. Fees range from \$0.25 to \$2,990. PTO has statutory authority to change fees annually based on changes in the Consumer Price Index. • Although the Copyright Office does not currently charge a fee by claim type (excluding group items), some Library services such as the Photoduplication service do. Photoduplication distinguishes fees both by service (i.e., black and white, color, and other) and by basis (i.e., fee per job, per item, or per hour).
Group Serials	\$10	\$10	
Group Daily Newspapers	\$20	\$38-\$47	
Textual Material	\$20	\$38-\$47	
Motion Pictures	\$20	\$38-\$49	
Performing Arts	\$20	\$38-\$47	
Sound Recordings	\$20	\$38-\$49	
Renewals	\$20	\$38-\$53	
Visual Arts	\$20	\$38-\$52	
Supplementary Info.	\$20	\$38-\$414	
Mask Works	\$20	\$38-\$420	
Charging Publishers for Cataloging			
Fee per CIP	\$0	\$185-\$189	<ul style="list-style-type: none"> • In 1993, OCLC estimated a fee of \$36/book based on an hourly rate; they believe they could now offer the service for less. • Quality Books offers a graduated fee schedule as follows: <ul style="list-style-type: none"> - 30-day turnaround - \$30 - 10-day turnaround - \$50 - Express/3-day turnaround - \$75 <p>They currently absorb those publications the Library will not take, like those of self-publishers, but probably could not handle the Library's CIP volume.</p>
Interlibrary Loans			
Filed Requests	\$0	\$28-\$32	<ul style="list-style-type: none"> • The following members of the Association of Research Libraries charged fees ranging from \$10 to \$43 for interlibrary loans in 1989. Adjusting +22.9% for changes in the Consumer Price Index, in 1996 estimated fees range from \$12 to \$53. <p>Colorado Technical Reference Center Georgia Institute of Technology University of Michigan University of Minnesota University of Washington</p>

⁹ The high unit cost range for Supplementary Information and Mask Works results from the proportionally high number of personnel in the Cataloging Division who are dedicated to cataloging these proportionally small number of registrations.

Fee-Based Service	Current Unit Fee	Proposed Unit Fee	Fee for Similar/Alternative Services
Charging Commercial Researchers			
Cost per Hour	\$0	\$24-\$29	<ul style="list-style-type: none"> • Fees for free-lance researchers vary considerably by division and by researcher. For example, we received the following quotes from a sample of researchers polled: Newspaper and Current Periodicals: <ul style="list-style-type: none"> - Fee set by customer - \$10/hour - \$65/hour or \$325/day - \$35/hour with a 4-hour minimum - \$60/hour; \$100/hour for 1st two hours Motion Picture, Broadcasting, and Recorded Sound: <ul style="list-style-type: none"> - \$250/day - \$250/day - \$300/day - \$50/hour

2. **Two of the services studied—interlibrary loans and assisting commercial researchers—have a low volume, thus limiting their revenue potential.**

As the Library of last resort, the Library of Congress lends relatively few items to other libraries and lends mostly to Congress. In FY 1995, the Library filled 32,000 of 40,000 requests made from Congress, compared to filling 21,000 of 46,000 requests made from other US government or US research libraries. The Library received 38,000 requests for material from US research libraries and 8,000 requests from US government libraries. Unless the fee for loans to other libraries would subsidize the cost of loans to Congress, the revenue from 21,000 loans (filled requests) to libraries remains quite small—under \$700,000.

In serving commercial researchers, most divisions in the Library have limited themselves to requests that can be handled quickly, usually within a 2-hour time frame. Any request demanding greater attention is generally referred to a list of outside researchers, resulting in *de facto* outsourcing of commercial research. Accordingly, charging commercial researchers a fee for research would most likely not offset current appropriations. Rather, the additional revenue would be offset by additional costs for performing research that currently is not performed.

3. **Significant revenue potential exists for the other two services studied—copyright registration and cataloging—but pursuing this revenue potential must be examined in light of precedent and the Library's mission.**

We believe the revenue potential from recovering full costs for copyright registrations and charging publishers for cataloging should be addressed within the broader context of the Library's mission. Because the copyright registration and Cataloging In Publication (CIP) programs provide considerable contributions to the Library's collection (Exhibit 2-33), the effect of increasing or introducing fees for these

those with the greatest potential for realization and to establish effective strategies for implementation.

6. The Library does not have the pricing mechanisms in place to the extent necessary to support additional fee-based services.

For comparative purposes, Booz·Allen also interviewed personnel in several of the areas in the Library that currently charge fees for their services. We found no consistent pricing methodology for establishing those fees, particularly where calculating hourly rates is concerned.

- In the Cataloging Distribution Service, fees are established through price recommendations developed by the Fiscal Officer. These price recommendations are based on a manual calculation of the marketing and distribution costs for a particular product and include an estimate of future sales volumes.
- The Photoduplication Service uses an activity-based costing approach to develop more than 40 separate fees for the copying services it provides. Photoduplication calculates hourly rates assuming 1,177 annual direct labor hours per employee. The difference between total annual hours of 2,080 hours and annual direct labor hours of 1,177 (903 hours) was assumed to account for holidays, annual leave, sick leave, lunch, breaks and 1.5 hours per day "unaccounted for."
- The Motion Picture, Broadcasting, and Recorded Sound Division calculates hourly rates assuming 80 percent productivity and 1,675 "available hours per year." The 20 percent reduction of available hours allows for training and other contingencies. The resulting hourly rate is effectively based on 1,340 annual direct labor hours.
- The Copyright Law provides the Register of Copyrights with the authority to fix fees for special services (i.e., services other than basic copyright registrations) on the basis of the cost of providing the service. The Copyright Office calculates hourly rates for these fees assuming 2,087 direct labor hours per employee. A multiplier of 73.29 percent is added to this hourly rate to account for other direct and indirect costs.

7. Outsourcing could significantly affect the Library's operating costs, unit cost of services, potential revenue, and also, mission.

Alternative methods of production, such as outsourcing, are possible if they are found to be in keeping with the Library's mission. While we did not evaluate the cost savings that could be realized through outsourcing, we did consider which of the four services we studied warrant an outsourcing analysis. We believe

charging publishers for cataloging and certain work related to the copyright registration process provide the greatest potential for outsourcing.

The Loan Division does not really lend itself to alternative methods of production, because processing loan requests requires admittance to the stacks. With respect to commercial research, various units at the Library have essentially outsourced all but a minimum level of research for commercial and other users. Numerous divisions perform only a prescribed minimum of research before providing requesters with a list of outside researchers who can continue a search for a fee.

Cataloging could be accomplished through possible outsourcing or cooperative agreements, subject to the interpretation of the Library's mission:

- In 1993, OCLC proposed to perform cataloging for the Library at an estimated price of \$36 per book
- The Library does have one cooperative cataloging agreement with the National Institutes of Health for cataloging medical material
- The Library has not pursued additional cooperative agreements because Library senior management is concerned about maintaining standards and quality in a dispersed cataloging operation
- The Library senior management considers cataloging a core service of the Library and one that should not be outsourced to firms like OCLC if the Library is to maintain the level of quality and completeness in its catalogs.

Parts of the copyright registration process are also candidates for outsourcing, for example, examining and cataloging. The determination of potential activities for outsourcing should be based on the need for knowledge of copyright law, the complexity of the process and the associated learning curve. It appears that the learning curve associated with examining and cataloging is fairly lengthy, indicating a long time before an outside source could handle current claim volumes efficiently. An associated risk of outsourcing might therefore be an increase in arrearages or a reduction in quality.

Alternatively, the Copyright Office could outsource the Licensing and Copyright Arbitration Royalty Panels (CARP) divisions, which do not get directly involved with the copyright registration process. The Licensing division administers compulsory and statutory licenses for retransmitting television and radio broadcasts. The CARP division makes determinations concerning reasonable terms and rates of royalty payments. However, given that both of these divisions currently offset their entire appropriations with fees, the benefit of outsourcing is primarily administrative.

The greatest potential for outsourcing in Copyright comes from areas where a working knowledge of copyright law is not required and where policies and practices are not frequently changed. A number of activities in the Copyright Office's Receiving and Processing division and some functions in the Information and Reference division represent candidates for outsourcing. Combined, these two divisions' FY 1995 appropriations for compensation and benefits approximated \$7.2 million.

8. To date, Congress has provided the Library with limited legislative authority to expand fee-based services.

Of the four services studied, only the Copyright Office currently has the appropriate support structure in place to recover cost. The base fee for copyright registrations can only be modified by law; however, the Copyright Law does provide the authority to adjust base fees at 5-year intervals to reflect changes in the Consumer Price Index (CPI). Despite the authority to adjust fees by regulation, the Copyright Office has elected not to do so. As a result, fees have not increased as often as changes in cost would demand or current law would allow.

Charging publishers for cataloging and charging libraries for loans would require legislative action to relieve the Library from restrictions. Whereas the Library does not currently have the authority to charge commercial researchers fees for services, large research projects could be accommodated through the Publications office. The Publications Office has a revolving fund, which permits the Publications Office to establish projects for fees or for shared revenue with outside publishers and researchers.

The fact that five different pieces of legislation have been drafted and/or introduced in each of the last 5 years, without any of them having been enacted, however, demonstrates the difficulty and complexity of introducing additional fee-based services. Exhibit 2-34, below, provides a summary of legislation drafted or introduced over the last 5 years.

**EXHIBIT 2-34
Summary of Legislation**

	Library of Congress Fund Act (S. 1416) 1991	Library of Congress Fund Act (S. 2748) 1992	Library of Congress Fund Act (S. 345) 1993	Library of Congress Financial Reform Act (H.R. 4736) 1994	Library of Congress Financial Management Act (Not yet Introduced) 1995
General	<ul style="list-style-type: none"> • Provides for fee-based library research and information products and services that are outside the scope of the Library's core services • States core Library services as organizing, cataloging, preserving collections; reference; domestic interlibrary loan • States core services are to be provided at no cost • Provides administrative mechanisms for fee-based services 	<ul style="list-style-type: none"> • Defines three types of services: <ul style="list-style-type: none"> - Core Library Products & Services: domestic interlibrary loan, information products & services customarily provided by libraries to users at no charge - National Library Products & Services: products & services used by libraries, play role in library services - Specialized Library Products & Services: customized information, products, and services that exceed core services, are not national, and are designed for individuals or discrete groups 	<ul style="list-style-type: none"> • Maintains three categories of products/services: <ul style="list-style-type: none"> - Core - National - Specialized 	<p>Specifies fee-based, or fund, activities as the following:</p> <ul style="list-style-type: none"> • Research reports for Federal agencies • Central acquisition for Federal agencies • Decimal classification development • Gift shop • Document copying services and international lending • Central acquisition for overseas programs • Special events and programs 	<p>Specifies fee-based, or fund, activities as:</p> <ul style="list-style-type: none"> • Research reports for Federal agencies • International lending • Central acquisition for Federal agencies • Decimal classification development • Gift shop • Document copying services and international lending • Central acquisition for overseas programs • Special events and programs

	Library of Congress Fund Act (S.1416) 1991	Library of Congress Fund Act (S.2748) 1992	Library of Congress Fund Act (S.345) 1993	Library of Congress Financial Reform Act (H.R.4736) 1994	Library of Congress Financial Management Act (Not yet Introduced) 1995
Cataloging	<ul style="list-style-type: none"> • Considers cataloging as a core service, which continues to be provided at no cost • Library no longer recovers cost plus 10%, but rather recovers distribution costs only when furnishing products and services 	<ul style="list-style-type: none"> • Considers cataloging as a core service, which continues to be provided at no cost • Library no longer recovers cost plus 10%, but rather recovers distribution costs only when furnishing products and services 	<ul style="list-style-type: none"> • Considers cataloging as a core service, which continues to be provided at no cost • Library no longer recovers cost plus 10%, but rather recovers distribution costs only when furnishing products and services 	<ul style="list-style-type: none"> • Does not consider cataloging a fee-based, or fund activity; continues to provide cataloging at no cost • Library no longer recovers cost plus 10%, but rather recovers distribution costs only when furnishing products and services 	<ul style="list-style-type: none"> • Does not consider cataloging a fee-based or fund activity; continues to provide cataloging at no cost • Library no longer recovers cost plus 10%, but rather recovers distribution costs only when furnishing products and services
Research	<ul style="list-style-type: none"> • States only reference services as core, not research • States customized research reports & analytical studies are fee-based • Establishes revolving fund 	<ul style="list-style-type: none"> • Specifies research reports & analytical studies as specialized products and as a fee-based service • Establishes revolving fund 	<ul style="list-style-type: none"> • Authorizes fees for production & distribution of specialized products • Establishes revolving fund 	<ul style="list-style-type: none"> • Allows charging of fees for research only to Federal agencies • Establishes revolving fund 	<ul style="list-style-type: none"> • Allows charging of fees for research only to Federal agencies • Establishes revolving fund
Interlibrary Loans	<p>Defines domestic interlibrary loans as core service, continued to be provided at no cost</p>	<p>Defines domestic interlibrary loans as core service, continued to be provided at no cost</p>	<p>Defines domestic interlibrary loans as core service, continued to be provided at no cost</p>	<p>Domestic interlibrary lending is not a fee-based service and continues to be provided at no cost</p>	<p>Domestic interlibrary lending is not a fee-based service and continues to be provided at no cost</p>

The initial impetus for the cited legislation was to provide the Library with statutory authority and financial mechanisms (example, revolving funds) to

support activities in which it was already involved. The initial legislation proposed by the Library—the Library of Congress Fund Act of 1991 (S.1416)) and Library of Congress Fund Act of 1992 (S.2748)—included fee-based products and services, however, as well as providing for the financial mechanisms. The expansion of fee-based services drew strong concerns from Library stakeholders, and as a result the legislation was revised to accommodate their concerns.

The proposed Library of Congress Financial Reform Act of 1994 and Library of Congress Financial Management Act of 1995 authorized specific fund service activities that could take advantage of a revolving fund's cost recovery mechanisms. For both pieces of legislation, the list of Fund service activities is the same. The activities included in the proposed legislation are all ones that the Library is currently performing under other authorities; no new fee-based or fund activities are authorized under this proposed legislation.

Stakeholders responded strongly to the Library of Congress Fund Act of 1992 (S. 2748), which led to the revision of fee-based services in the 1993, 1994, and 1995 proposals. Exhibit 2-35 summarizes the written testimony provided at the hearings on the Library of Congress Fund Act of 1992 (S. 2748).

EXHIBIT 2-35
Testimony on the Library of Congress Fund Act of 1992 (S. 2748)

	Information Industry Associates (IIA)	American Library Association (ALA)	Association of American Publishers (AAP)
General Comments	<ul style="list-style-type: none"> • Puts the Library in competition with the private sector • May diminish intellectual property rights • Establishes information policies for the Library that are inconsistent with general government information policies • May shift the Library's focus from non-fee-based services to fee-based services • Changes mission of the Library from focus on Congress 	<ul style="list-style-type: none"> • Ensure that fees do not become a barrier to access and service • Maintain core services of the library as free • Charge marginal distribution costs only for national services 	<ul style="list-style-type: none"> • Takes away from the Library's overarching traditional mission as the library to Congress • Allows the Library to compete unfairly; the Library should not be in competition with the private sector • Library should focus on problems identified by GAO, rather than on expanding its mission
Cataloging Fees	<ul style="list-style-type: none"> • Gov't information principle: no one should pay more than a marginal fee for dissemination. • Gov't information should be funded through appropriations; agencies should not sell information to fund Government activities. • Library might seek copyright protection and licensing fees on materials it produces. 	<ul style="list-style-type: none"> • National library products/services should be provided at no more than distribution cost. • Concern about the range of cost categories is included in the definition of distribution costs. 	<ul style="list-style-type: none"> • Define core services of the Library as organizing, cataloging, and preserving its collections.

	Information Industry Associates (IIA)	American Library Association (ALA)	Association of American Publishers (AAP)
Research Fees	<ul style="list-style-type: none"> Focus could shift to fee-based services at expense of non-fee-based services. 	<ul style="list-style-type: none"> ALA is concerned about how core services will be differentiated from customized services. 	<ul style="list-style-type: none"> Private sector organizations provide these services; proposed legislation allows the Library, a taxpayer-subsidized entity, to engage in commercial activity. Broad categorization would permit the Library to do just about anything.
Interlibrary Lending Fees	<ul style="list-style-type: none"> No direct comments 	<ul style="list-style-type: none"> Consider Library of Congress as the library of last resort for free domestic interlibrary loans 	<ul style="list-style-type: none"> No direct comments

As further evidence of the divergent opinions around charging fees for services, stakeholders' responses from the Mission focus group demonstrate that the views on these three areas of potential fee-based services diverge greatly. Exhibit 2-36 gives a summary of the Mission focus group responses for Congressional staff and Library Executives.

**EXHIBIT 2-36
Mission Focus Group Results**

Issue/Respondents	Strongly Disagree/Disagree	Neutral	Strongly Agree/Agree
Charging publishers a fee for cataloging			
Congressional Staff	1		5
Library Executives	4		
Charging commercial researchers a fee			
Congressional Staff		1	5
Library Executives	4		1*
Charging for interlibrary loans			
Congressional Staff	5	1	
Library Executives			4

*One respondent in the Library Executive focus group checked "Disagree" for core research and "Agree" for customized research.

Congressional staff and Library executives in the focus groups have opposite views on each of the three proposed fee-based services. Congressional staff

responses indicated that charging fees to publishers for cataloging or to commercial researchers should be pursued, whereas Library executives indicated these should not be pursued. On the other hand, Library executives indicate that interlibrary lending should be a fee-based service, which is contrary to both the Congressional staff's view and to the treatment of interlibrary lending in the proposed bills since 1992.

The determination and implementation of potential fee-based services will require significant work among the Library staff, Congress, and other stakeholders and interested parties, because no clear consensus on potential new fee-based products and services for the Library exists. Vocal stakeholders, such as IIA, ALA, and AAP, have been in favor of the Library's not expanding its fee-based services beyond what it offers today, namely, catalog distribution and photoduplication.

2.5.4 Recommendations

1. Pursue Full Recovery of Copyright Costs

We believe that fully recovering copyright registration costs offers significant opportunities both in terms of additional revenue to be captured and relative ease of implementation. The additional revenue to the Library is substantial—on the order of approximately \$11 to \$17 million annually. As the Copyright Office has been subject to full cost recovery in the past, a precedent has been set for the Library. This precedent could be an argument to pursue full cost recovery.

In order for the Library to recover full costs successfully, though, it will need to refine its cost data and cost assumptions for the Copyright Office. Additional analysis done to understand more fully the cost drivers and the associated assumptions on how to allocate costs more completely will give the Library better information to determine what the fee levels should be and will help make a stronger argument for obtaining the legislative relief needed for full cost recovery.

Because the Copyright Office does not fully recover costs, and has not fully recovered costs since the 1940s, the Library will need to develop a legislative strategy and seek Congressional approval for full recovery of copyright registration costs.

In addition, if the Copyright Office is to maintain full cost recovery, it needs to establish the capability and mechanisms to handle fee changes and, possibly, multiple fees. In recovering full costs, we recommend that the Copyright Office also establish a differentiated fee structure that better matches the fee to the processing cost. In order for the Copyright Office to implement this approach successfully, it must be able to update, maintain, and communicate a more complex fee schedule that will change more frequently. The introduction of the online Copyright Office Electronic Registration, Recordation and Deposit System (CORDS) in the near future should facilitate fee changes through the use of electronic data interchange and electronic commerce for fee recovery. Coupling the changes in fees with the

implementation of CORDS should simplify the change and reduce concerns about a fee structure that changes fairly frequently.

The Copyright Office therefore meets two key criteria for pursuing a fee-based service: significant revenue, which makes putting the necessary structures in place worthwhile, and a strong argument and precedent, which can help diffuse possible negative reactions from the customer and stakeholder base.

2. Develop a comprehensive plan to explore in detail the potential revenue from charging publishers a fee for cataloging.

We have estimated that the potential revenue to the Library from charging publishers a fee for cataloging represents a significant amount of money—on the order of \$7,500,000 annually—as shown in the detailed analysis above. Recovering this potential revenue, however, may be complex. Both Library of Congress management and many of those outside the Library perceive cataloging as a core service of the Library. We believe that the Library should carefully construct and execute a plan that specifies how it will realize the potential revenue and how it will address stakeholders' interests and concerns.

We recommend that the plan for charging for cataloging incorporate the following elements:

- A thorough assessment of the corollary relationships between publishers and the Library—the Library's relationship with publishers and the publishing community exists on many levels, such as receiving new publications into the collections and cooperative agreements, and the Library needs to examine whether charging publishers fees for cataloging would significantly damage other important relationships. The plan therefore should address the range of these relationships and identify steps to mitigate the concern or risk.
- Addressing the concerns of other stakeholders—the Library has many other stakeholders, such as Congress, libraries, and associations, that may be concerned about how charging a fee for cataloging will affect the Library's cataloging and collections. The Library should bring these stakeholders into the discussion and design of the proposed approach to fees for cataloging. The Library should plan out the steps required to ensure the continued high quality of both cataloging and the collections and to reduce or mitigate the stakeholders' concerns.
- Development of a method for setting the fee structure—in charging publishers a fee for cataloging, the Library will have to determine the basis for the fee—whether to base the fee on full cost recovery or to use something less than full cost recovery. The Library must address how to handle the value of items deposited with it for cataloging, and whether or

not this value plays a role in determining the level of the fees. The Library needs to evaluate the price elasticity of demand with respect to cataloging to determine the appropriate level at which to set price and maximize potential revenue.

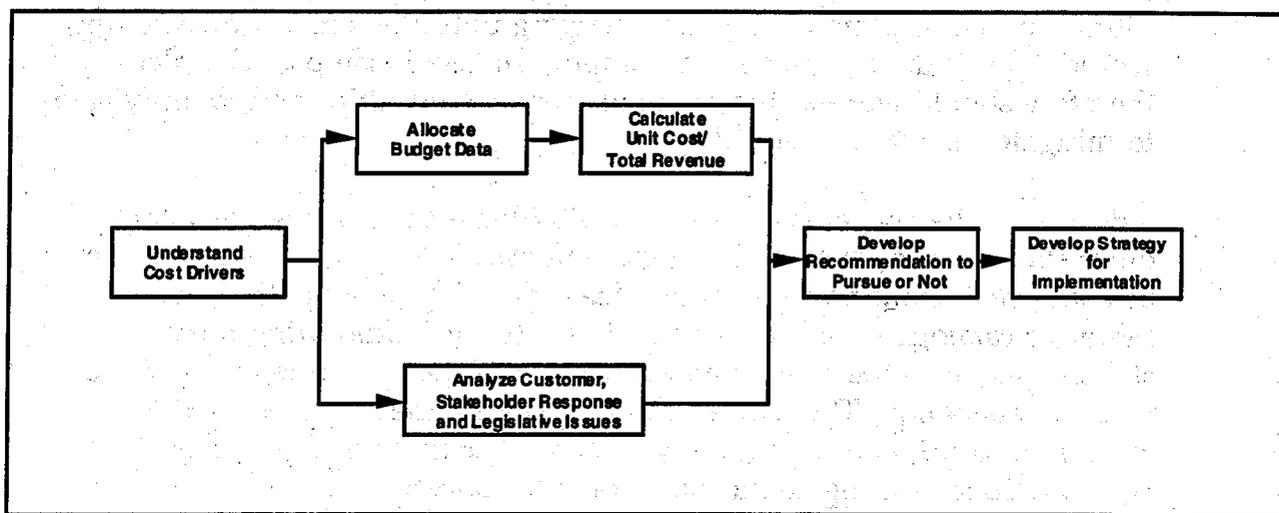
Similarly, the Library will have to assess if publishers' alternatives for cataloging information are acceptable to the wider community. If so, the effect on demand for Library cataloging services will clearly have bearing on the level of fees the Library can ultimately charge. It will also have to determine if charging a fee for cataloging will reduce the number of items submitted for cataloging, which would reduce both the inflow to the collections and the potential revenue.

3. Develop a strategy and approach for qualifying potential fee-based services.

The analysis of the four service areas studied makes clear that some possible fee-based services offer substantially greater potential revenue than others. In order to deploy its efforts most effectively and maximize revenue potential, the Library should develop an analytical approach that allows it to determine both the level of potential revenue and the possible issues related to pursuing the fee-based service, including stakeholder and legislative issues.

Exhibit 2-37 shows the conceptual approach we have developed for the Library to use in qualifying opportunities.

Exhibit 2-37 Proposed Approach for Qualifying Opportunities



This approach mirrors the analytical approach we used for this study. It takes into account not only the financial data, but also the environment for the potential fee-based services. Key elements of the approach include the following:

- Understand cost drivers—Defines how the service is provided and what resources are involved in providing it. This information, which can be gathered through focused interviews and volume statistics, provides the basis for assumptions on allocating the costs of the service.
- Allocate budget data—Breaks down budget data, including overhead, according to the assumptions determined in the previous step. This is the first step toward the allocation of total costs to the service under study.
- Calculate unit cost and total revenue—Determines the cost per service to each customer. The unit cost provides important input as to how the service may be perceived by potential customers.
- Analyze customer and stakeholder responses and legislative issues—Provides the context in which the fee-based service would be implemented. This analysis can be accomplished through selected interviews and through comparisons with similar services and the reactions to those services in the past. Realizing additional revenue potential requires that the Library have the authority and support to implement the fees. The stakeholder and legislative analyses are key to determining what it may take for the Library to get such authority and support.
- Develop recommendation to pursue or not—Provides context for moving forward. Based on the quantitative and qualitative data, the Library can determine whether or not an opportunity really offers revenue potential. The quantitative data will demonstrate whether or not the potential revenue is at a level that is worth pursuing; the qualitative data will help the Library make the decision on whether implementing the fee-based service is in its best interest.
- Develop strategy for implementation—Creates a comprehensive approach for implementing qualified opportunities. The analytical steps outlined above will help ensure that the Library will pursue only services that offer real potential. Using the preliminary analysis as a starting point, the Library should then establish a plan for ensuring that the opportunity becomes a reality.

The application of the analytical approach will assist the Library in qualifying opportunities based on a realistic assessment of their potential, both financial and strategic. Through the assessment, the Library can determine the high-priority, high-probability services to pursue for fee authority.

In order to fully realize the revenue potential from the Library's services, the Library needs to move along two tracks. First, Library management should charge each service unit with identifying potential fee-based services and off-sets to

appropriated funds. Second, the Library should develop specific plans and assign responsibility for developing the fees and fee authority.

4. Develop legislative strategy to provide the Library with the financial mechanisms and authority needed to implement fee-based services.

One of the most critical elements needed for the Library's implementation and management of fee-based services is the appropriate financial structure. Fee-based services, in order to run effectively, require a different financial structure from that presented in the annual budget and appropriation process, which restricts planning and performance to the single fiscal year horizon. Fee-based services demand mechanisms that allow the organization to provide services across budget and appropriation years.

To date, Congress has not provided the Library with legislation authorizing all the different financial mechanisms needed to pursue a range of fee-based service opportunities. The Library should develop a legislative strategy that takes into account potential stakeholder reactions and objections to the fee-based services and determines how it will deal with these objections in negotiating the needed legislation.

3.0 INFRASTRUCTURE

Infrastructure focuses on the areas of facilities, security and technology usage. The Library faces some unique and time-urgent issues in these areas which are treated in detail in the following sections.

3.1 FACILITIES

The Library's operations are inherently facility intensive. Without adequate facilities, there would be nowhere to store and review the Library's collection of printed materials, films, and recordings. More importantly, the Library's need for adequate space is constantly growing. The recognition of the inter-relationship between mission and the facilities required to support the mission is critical to the Library's future success.

3.1.1 Background

The Library of Congress is primarily housed in three buildings on Capitol Hill. The Jefferson Building, a turn-of-the-century facility built in the Neo-classical style, is the centerpiece of the Library and houses the Main Reading Room and a variety of collection items. The Adams Building is a Federal-style building housing the science and technology collections. And the Madison Building, built in the late 20th century Modern style, houses most of the Library's operations and service units, its Law Library, the National Digital Library, and several classifications of collections. The Library bears no rental or maintenance costs for these facilities as those costs are borne by the Architect of the Capitol. The Jefferson and Adams Buildings are nearing the completion of a 10-year, \$80 million renovation. The Madison Building is nearing the end of its 20-year economic life. The Library does receive appropriated funds to pay \$2.6 million for Capitol Hill janitorial services and \$4.7 million for the General Services Administration (GSA) Rent System (RS) rates for the use of off-site facilities (Landover Center Annex, Taylor Street Annex, Market Street Annex, and Buzzard Point). The Suitland and Wright-Patterson Air Force Base facilities are used by the Library for nitrate film storage and preservation. These outlying facilities house a mix of collections storage and Library operational functions. The planning, design, construction, maintenance and management of these facilities is performed by a combination of the Library, and the Architect of the Capitol, the GSA, and the U.S. Air Force.

Collections storage space availability is a Library-wide issue, one that has a clear impact on the Library of Congress' ability to carry out its mission of collecting, storing, and preserving general and special collections. Available space to store the Library's continuously growing collections has nearly run out. In 1992, the Library predicted that the General Collections would reach "gridlock" in 1994 in the Jefferson Building and soon thereafter in the Adams Building. Space for motion picture film was expected to be exhausted in 1993 and recorded sound collections would be out of space in 1994. In addition, it was predicted that several million items would need to be relocated to off-site storage to accommodate the Manuscript Division staff for arrearage reduction. The Prints and Photographs Division collections, scheduled to move to off-site storage to make room for processing staff in 1993, are still awaiting space. And the Rare Book and Special Collections Division

shelf space is currently filled to capacity.¹ Many of the predictions made in 1992 have now been realized and the space shortage is projected to intensify as collections continue to grow at a rate of 300,000 items per year. At that rate, the Library's collections will exceed the predicted storage capacity of the only construction project currently approved by Congress, the Fort Meade Storage facility, before it is completed in 1999.

In spite of this fragmented environment, facilities planning has improved its efforts toward the identification and evaluation of short and long term collection storage requirements. These planning activities, however, have been heavily influenced by Congress and program funding for additional storage space was not granted until FY1993.² The Library has also completed several detailed planning analyses for relocating some Capitol Hill collections into high density off-site storage facilities as part of their planning process for the primary storage needs of the Library's collections.

It is important to understand where facilities planning and management activities fit into the overall Library organization. The Library's Integrated Support Services (ISS) Office is responsible for all functions relating to procurement, contracting, and material activities; space planning and space utilization; facility management, and custodial oversight of Library buildings and leased space; interior design; environmental health, safety, and fire protection; occupational health; management of mail, freight, and transportation services; physical and electronic security of Library buildings, collections, and information; and emergency preparedness. These activities are organized into seven divisions. Each of the seven Division Chiefs serves on the ISS management team and is under the general policy direction of the ISS Director.³ The ISS Director reports directly to an Associate Librarian of Congress and serves on the Senior Management Reporting Group. Exhibit 3-1 identifies all of the components of ISS that are involved in facilities planning and management for the Library.

¹ Data from the December 1, 1992, Library of Congress Collections Storage Plan.

² FY 1993 Legislative Branch Appropriations Bill.

³ Data from the March 28, 1994, Library of Congress Regulation 214-3, Functions and Organization of Integrated Support Services, Constituent Services.

3.1.3 Findings and Conclusions

The facilities planning and management sections within Facility Services provide a full range of service-oriented functions designed around the user's needs. They implement the majority of these functions in an environment where direction, which is often conflicting, is received from several sources and where key resources (especially space and personnel) are severely restricted. Operating in this environment directly affects their ability to respond efficiently and effectively to customer's requests for services. In spite of this situation, they have consistently been able to quickly mobilize available resources to accommodate user changes or new directions, accommodating special events and rapidly emerging programs such as the NDL. All this, however, is often at the cost of other requirements that were quickly reprioritized.

The critical shortage of space that has been identified and documented by the Library several times in recent years is symptomatic of a larger problem: the Library does not treat facilities planning and management as an integral part of its mission. As a result, it is restricting its own ability to locate materials for readers and the collection materials are subject to damage and deterioration because they do not have the proper storage environment. Furthermore, the demand for additional space and the need to remedy quality and environmental problems in older leased facilities, such as the nitrate-based film storage facilities in Suitland, Maryland, are increasingly impacting all collections programs at the library.

Related to this problem is the inability of the Library to obtain the necessary Congressional program approval and subsequent funding for its ever-increasing storage space requirements. Multiple planning scenarios have been developed by the Library to satisfy partial storage space requirements; however, these scenarios have never been tied together in a comprehensive plan and consequently have not been approved, in spite of the fact that the Librarian has testified before Congress attesting to the criticality of space needs. Efforts at securing program approval have largely failed; the one exception being the Fort Meade Storage Facility project.

Booz-Allen's facilities management assessment revealed the following significant findings and conclusions:

- 1. The Library does not have a Strategic Facilities Plan that includes a comprehensive plan for the efficient and economic management of the facilities which house collections.**

Although there have been some isolated planning studies and reports that define short and long-term collection storage needs, there is no comprehensive,

integrated Library-wide strategic facilities plan. For instance, the Library has completed the following studies and reports:

- 1989 Statistical Survey of Current and Projected Collections Space Needs for the Year 2000
- 1990 A Plan for the Library of Congress Collections Storage Facility
- 1991 Special Collections Space Needs Assessment
- 1992 Report on High Density Storage Facilities
- 1992 Library Strategic Plan
- 1992 Collections Storage Plan
- 1992 Committee on the Study of Future Space Needs for Book Collections Report.

These documents collectively describe the Library's collections storage problems in both the general and special collections, forecast the growth of collections, and identify both long and short term solutions for locating additional space. Although these planning studies and reports are important, a clear and comprehensive facilities strategy which provides a solid foundation for making decisions and obtaining project approvals and funding is missing. Exhibit 3-2 assesses the current availability of essential strategic planning components.

EXHIBIT 3-2
Strategic Facilities Plan Component Matrix

Component	Availability		
	Not Available	Partially Developed	Fully Developed
Facilities mission			
Formal goals and objectives		√	
Facilities strategy for each facility			
Preservation strategy		√	
Collections strategy, etc.		√	
Building use statistics		√	
Facility space management standards			
Qualitative and quantitative standards		√	
Administrative room space		√	
Conference room space		√	
Lunchrooms/break rooms	√		
Restrooms		√	
Exhibit space	√		
Stack space		√	
Media storage	√		
Vault room space	√		
General storage areas	√		
Processing area	√		
Research room space, etc.	√		
Baseline data			
Current space conditions		√	
Space forecasts		√	
Quantity and quality standards vs. actual conditions	√		
Adjusted capacity	√		
Projected space costs		√	
Analysis of what each facility requires to meet standards	√		
Long term space forecast		√	
Facility options			
Facility options to provide quality and quantity standards		√	
Cost estimates for implementing options		√	
Fiscal and operational options			
Budgetary impact to the Library		√	
Operational issues		√	

The absence of a comprehensive process to guide facilities planning and management decisions is further highlighted by the fact that the Library has no short or long term strategy to transition out of the Suitland film vaults facility. The Library has clearly stated that nitrate film storage has been troublesome over the last 15 years and the GSA has requested that the Library vacate the Suitland film vaults. The Library's Safety Services Division said that the Suitland and the Wright-Patterson Air Force Base facilities should be vacated due to deteriorating conditions. Even with the serious facility problem clearly understood, one of Collections Services' top 10 priorities is to acquire significant amounts of additional nitrate film without a clear, well-developed plan and comprehensive approach to resolution of the associated facility problem.⁴ The efforts involving the study of a potential site in Culpepper, Virginia, are only investigatory at this point and not part of a planned effort to address this issue.

Without a comprehensive strategic facilities plan, there is no formal process in place to:

- (1) Describe the inter-relationship between the mission of the Library and the facilities operations that are required to support the mission
- (2) Define Library-wide space management standards to apply to individual facilities and function types
- (3) Identify facilities options for meeting space requirements
- (4) Fully develop feasible alternatives.

Additionally, the placement of Facilities in the Library's organizational structure does not support a strategic facilities decision-making process (see finding number 7.) which is impacting the Library's ability to provide a coordinated strategic facilities planning framework.

2. Data sharing, project planning, communication, and coordination among organizational groups is insufficient.

Within ISS, Facility Services, ISS Directorate, Safety Services, and Security components work independently rather than as a team. For instance, the ISS Directorate's facility database, composed of Computer-Aided Design (CAD) files and space utilization data, was not made available to Facilities Services during the lengthy down time which occurred when their only system crashed during our study. Nor do Facility Services, ISS Directorate, and Security exchange facilities data

⁴Data from July 13, 1995, Library of Congress memorandum from the Director of ISS to the Deputy Librarian of Congress.

As further evidence of a segmented and disjointed workflow, we found that there is no integrated work request or project tracking system within the Library or across ISS. Facility Services does track work requests, maintain project schedules, and monitor the progress of projects; however, the tracking system is not 100 percent automated and is not accessible outside of Facility Services. They produce a quarterly work request status report for the ISS Director to use and disseminate; however, there is no formal channel of dissemination or management review across organizations. Safety Services (a facilities function within ISS) has no way of tracking project status to identify planned moves in order to commence fire protection evaluations or to identify when they should get involved with a project. This disjointed work flow lends itself to bypassing established procedures. Some service units even call the AOC directly to initiate a work request or obtain information on projects.

4. The Library lacks a comprehensive and integrated facilities database.

Due to the absence of a comprehensive and integrated facilities database, facility personnel do not have quick and easy access to a single, integrated, or technically accurate facilities information data set. As a result, facility personnel are basing decisions on information that is outdated and that varies across divisions. Facilities planning and space management decisions are not being optimized.

At least five separate, incompatible, duplicative, and in one instance, inaccessible, facilities databases, all in various degrees of accuracy, are being used to make facilities decisions. The Facilities Design and Construction Division's drawing database includes architectural drawings for the three Capitol Hill buildings detailed to the partition level. The ISS Directorate's drawing database includes the architectural, structural, mechanical, and electrical drawings of the same three Capitol Hill buildings along with the GSA leased facilities. Design and Construction Divisions' drawings are current for partition information; however, the ISS Directorate's drawings have not been updated since 1989. The Security Division also has a complete drawing database of all Library facilities that was downloaded from ISS Directorate's system. These drawings have never been updated. The AOC has a standalone drawing database that is the most current data set for the architectural, structural, mechanical, and electrical drawings of the Capitol Hill facilities. Finally, various service units have unique versions of drawing databases that are used in space management. All of these databases have duplicate data sets in various stages of accuracy (floorplans, occupant information, wall/partition locations), and run on different operating systems and/or platforms.

Critical facilities information that exists in isolation at all levels within the Library - strategic, facilities planning, and facilities operations, is not being integrated into a centralized database for organization-wide sharing:

- ISS Directorate's optimization of facility assets and strategic planning for future needs through fundamental "what-if" scenarios could be accomplished more efficiently and effectively with a comprehensive and integrated facilities database.
- Facility Services and Facility Design and Construction Divisions. It is especially critical that these designers and project managers have up-to-date information because their day-to-day operations depend on it. Because they do not control whether vital facilities information is shared Library-wide, they are unable to quickly and easily develop detailed and accurate inventories of space and assets, develop occupancy plans, quickly locate vacant space and other available resources. Design and Construction needs to work from a common set of data with the AOC, Safety, and Human Resources as the Library assesses, quantifies, and deals with the improvements that are needed to conform to the provisions and requirements of the Occupational Safety and Health Act of 1970 (29 U.S.C. 651 et seq.) and with the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.).
- Facility Operations and other facility managers. Coordination across the organization is negatively affected because facility managers do not share scheduled or unscheduled space modification information through electronic work requests and job plans across the organization.

The mainframe-based Computer-Aided Design system that is currently used by Facility Services is the only repository of space related, graphic information that includes individual office or work spaces. The architectural floor plan drawings that have been developed with this CAD system are critical to Facility Service' operations and are intended to be maintained and made available to users of facility information. For various reasons, the drawings in the system have not been maintained and are not readily accessible. Booz-Allen made several unsuccessful attempts over a two-month period to obtain essential CAD drawings which depict space utilization of Library facilities in a format suitable for use with a Personal Computer (PC) platform. These fundamental problems have been further exacerbated by the fact that the mainframe platform is obsolete, and due to the small customer base remaining in the industry, it is difficult and costly to obtain system support and maintenance.

In an effort to remedy the situation, the Facility Service' systems administrator has initiated a contract to transition the entire system to a PC-based, Windows NT platform. Once this becomes fully operational, and drawings have been updated and validated, a limited group of authorized facility users within the Facilities Design and Construction Division will be able to easily and conveniently access these drawings through networked PC's.

The first part of the report deals with the general situation in the country and the progress of the work during the year. It is followed by a detailed account of the work done in each of the various departments.

The second part of the report deals with the work done in each of the various departments. It is followed by a detailed account of the work done in each of the various departments. The third part of the report deals with the work done in each of the various departments. It is followed by a detailed account of the work done in each of the various departments.

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Although this effort represents a significant step in the right direction, the Capitol Hill buildings account for only part of the overall Library of Congress infrastructure, and their use by Facility Service represents only a partial segment of users that require access to this type of data. ISS Directorate, the Security department, as well as some service units, and even the AOC, all need access to this information. Unfortunately, these different groups all use different tools and systems to maintain and manage assigned areas of responsibility, each utilizing redundant CAD drawing files in varying degrees of completeness and accuracy.

5. The Library does not have an integrated project prioritization process.

An integrated, Library-wide prioritization process has not been established. This issue was initially addressed in the 1989 Arthur Young Management study. The purpose of a project prioritization process is to establish organization-wide priorities, assign individuals to high priority work, and manage work backlog. The Arthur Young Management study recommended the establishment of such a project prioritization process. The study also recommended that all ISS departments, service units, and Library management be included in the process of assigning priorities and allocating resources based on those priorities.⁶

Library of Congress managers, particularly those within Facility Services, commented that planning and executing work assignments is difficult and disorganized. New projects are continuously forced into the queue ahead of other projects already in the pipeline which results in project delays. According to Facility Services, initial steps were taken to introduce a prioritization process; however, procedures were never fully developed or implemented due to organizational changes within ISS that left the issue of implementation responsibilities in question.

The failure to appropriately set priorities is increasing the time and cost required to plan, design, and execute user requests for space design and modification because resources are not being efficiently allocated based on priorities. Continuously shifting priorities is causing designers to stop work on a particular project for weeks on end in order to work on a new, higher-priority project. This frequently causes AOC shop work to come to a halt and the reassignment of resources to other projects which causes costly delays of all facilities design and construction projects.

Facility Services has specifically identified numerous examples of work stoppages, lengthy delays, and reassignment of resources, including a daycare center project that took priority and nearly stopped AOC shop activities on other projects. Another example cited was the completion of a room in the poetry area which

⁶Data from, the January 26, 1989, Arthur Young Library of Congress Management Review.

caused work stoppages on other projects. These examples illustrate the loss of work management control resulting from the inability to set priorities and deal with them in an organized fashion.

6. The Library does not have comprehensive space management standards.

Space utilization for each facility varies across service units and functions. The lack of approved and promulgated corporate space standards inhibits the establishment of a realistic baseline to assess this variance. The lack of such standards also prevents the development of defensible space requirements that can be used to evaluate facility options, address identified needs for increased capacity, develop short and long range planning options for additional facilities, and assess the budgetary impact of space on the Library. As a result, the efficiency and equitable distribution of current space use cannot be determined, and therefore controlled, and a supporting, auditable projection of additional space requirements cannot be made. Space management standards would help to control increased space requirements and costs.

The Facility Services Division has developed facilities space management standards for the Madison Building administrative offices and conference rooms and furniture standards for the Madison, Jefferson, and Adams buildings.⁷ However, there are no uniform space standards for Library-unique functions such as stack space, media storage, general storage areas, reading rooms, and processing areas. This lack of comprehensive space management standards is demonstrated in the Library's 23 reading rooms which are all configured to use space differently. An example of a good space management standard for a textual research room is: "A 600 square foot area is necessary. Qualitatively, the room must be climate controlled, with appropriate air filtration. Special security, lighting, and acoustics considerations are required, and the furniture must be suitable."⁸

Although the Library has developed detailed stack space analyses for the Fort Meade Storage Facility project, they are not being further developed into comprehensive space standards that can be used for existing facilities.

7. The ISS Facility Services Department has assumed a reactive role in terms of facilities operations.

Facilities decisions come from multiple, uncoordinated sources such as the numerous committees that are frequently formed to evaluate and establish facilities

⁷Data from the December, 1989, Madison Building Offices and Conference Rooms Revised Standards Document.

⁸Data from the July 31, 1995, National Archives and Records Administration, Report of the NARA Space Planning Team.

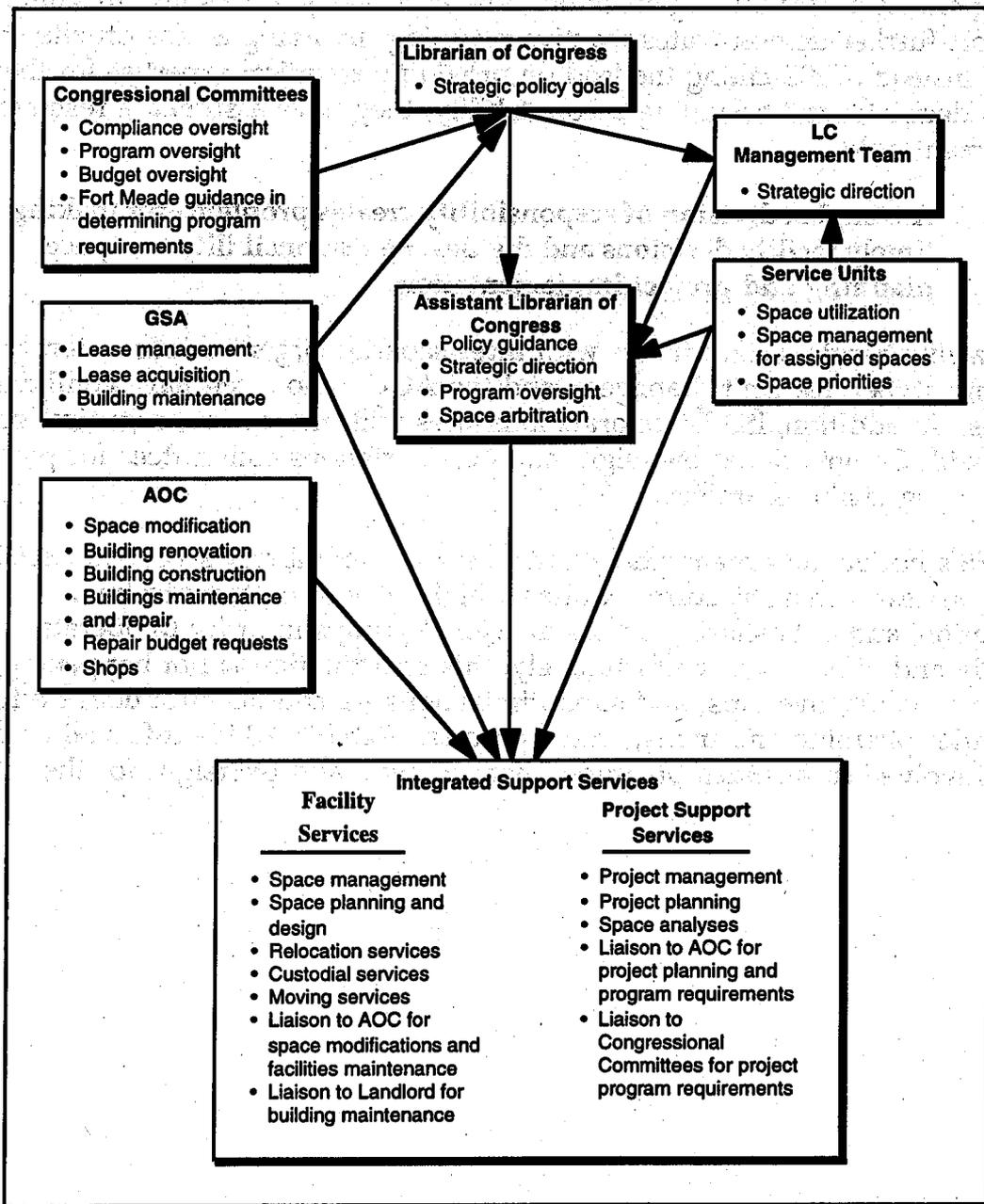
requirements. In addition, the various service units establish their own facility space requirements and make their demands known to ISS. This multiplicity of decision-making authorities greatly complicates the coordination and execution of planning efforts across the organization. The Fort Meade case study in Volume 2 of this report further demonstrates reactive planning involving a new off-site storage facility. Instead of ISS taking the lead on providing technical expertise for these facilities decisions and assuming accountability, they have assumed a reactive management role.

- 8. A complex division of responsibility creates problems for making timely facility decisions and divides the responsibility for space planning and project implementation.**

Facility Services coordinates with three separate organizations: Library Management, Service Unit Managers, and the AOC, who often have conflicting priorities. In addition, ISS Directorate interfaces with these same organizations as well as with Congressional oversight and appropriations committees for planning and executing facilities projects.

ISS's horizontal organization contrasts with the Library's vertical decision making process. This structure requires a high level of communication, coordination, and data sharing across divisional groups in order to operate efficiently and effectively. Unfortunately, this coordination is not happening, resulting in voids, overlaps, and suboptimizations - a counter-productive effect on the facilities planning and management process. Exhibit 3-3 identifies all of the groups involved in facilities planning, management, and oversight for the Library.

EXHIBIT 3-3 Facilities Planning And Management Responsibilities And Decision Making Influences



3.1.4 Recommendations

The Library's greatest challenge is to think more strategically about its facilities due to the inherent inter-relationship between the Library's mission and its facilities. Treating facilities as an important strategic element for accomplishing the

Library's mission will address the most pressing needs the Library is currently facing: severe space resource constraints, degradation of the quality of collections environments, and no comprehensive long-term facilities requirements plan.

As the Library develops a comprehensive strategic plan that integrates its mission and technology, facilities planning and management operations must continue to be service-oriented and designed around the needs of Library users. Facility resources should be managed appropriately in support of those needs. This shift should be accomplished through the effective and efficient coordination of facility planning and implementation activities.

The following are recommendations for improving the Library's facilities planning and management decision making and facilities utilization strategies.

1. Develop a Library-wide Strategic Facilities Plan.

The Library's organizational decision making structure directly impacts its ability to strategically plan and execute an effective and comprehensive planning program in order to satisfy its collections storage needs. Authority and coherent direction should originate from upper management in the Library's hierarchy, at the Associate Librarian of Congress level, and be channeled directly along vertical and horizontal reporting lines. The direction given to facilities must be strategic and based upon a thorough understanding of the inherent inter-relationship between the Library's mission and its facilities in order to provide an attainable and coordinated strategic facilities planning framework for staff execution.

Therefore, it is recommended that the responsibility for strategic facilities planning be formally assigned to an upper management position that places a clear focus on facilities operational requirements. This position must carry with it clear authority and accountability to develop the strategic plan for the facilities divisions and all Library liaisons.

A strategic facilities plan will enable the Library to determine and control their role in the planning and management of key factors affecting space and facility use. It will also help them define the inter-relationships between facilities and how they support the collections through the utilization of a comprehensive process to guide development. Exhibit 3-4 models a strategic facilities plan that may be used in developing a Library-wide plan.

2. The Library of Congress should design, develop, and implement a data sharing methodology.

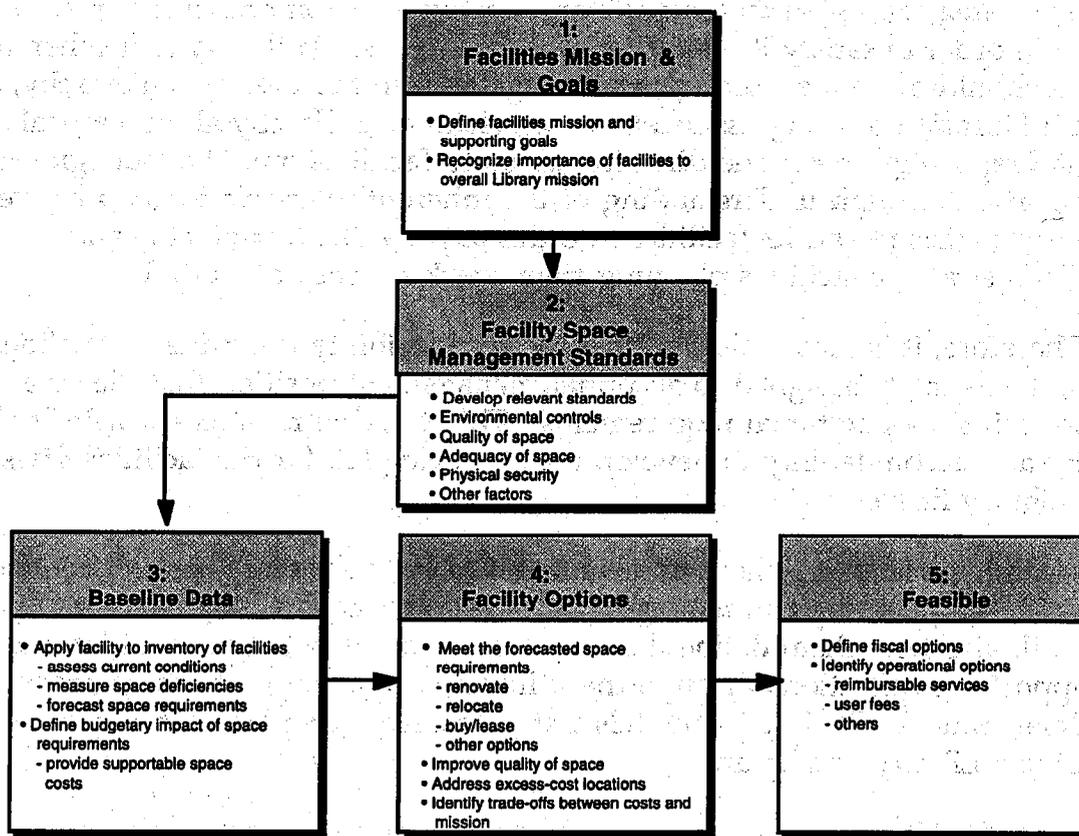
The ISS Director must create the appropriate mechanisms to ensure coordination between facilities departments and facilitate decision making and project planning across the ISS team. One such mechanism could be the establishment of mandatory and routine space management reviews with

representation from all facilities divisions. Another mechanism would involve the design and implementation of a data sharing system.

3. **ISS should be given "ownership" of the Library facilities to ensure both the optimal use of Library space and to ensure proper support for the collections.**

Facility Services needs to operate as the owner of the spaces, a role the service units currently assume. This change will help Facility Services operate more proactively and efficiently. It will also insert them into the collections management process, ensuring that the availability of appropriate space is addressed in a timely manner in the case of special collections, such as the WETA/PBS tape archives that were awaiting the arrival of storage shelves in the Landover Annex during our site visits.

EXHIBIT 3-4 Model Strategic Facilities Plan



- 4. Develop and implement an integrated, shared, and technically accurate set of facilities-specific CAD drawings and associated databases.**

In order to implement and manage an integrated, shared, and accurate database, a computer aided facilities management (CAFM) system should be developed to provide the necessary tools for long-term planning and infrastructure management. These tools will provide Library personnel with quick and easy access to accurate information on each functional component. Paramount to this accomplishment is the issue of standardizing hardware platforms and software tools in a CAFM system. This standardized environment is a prerequisite for local or wide area networks that utilize client server technology to connect the various user locations. The Library's Facility Design and Construction Section has already purchased some of the major hardware and software components that would be needed to implement an integrated CAFM system.

An integral component of developing a CAFM system is the definition of a functional data sharing process and a concept of operation that promotes maximum efficiency across facility management divisions in terms of resources, operational capabilities, and cost. This concept of operations should provide the capability for bi-directional flow of facilities planning and space management information between users, ultimately support the decision-making process with accurate and timely data, and their consolidation into a strategic level executive information system.

It is important that the integrated facilities planning and space management system database become the primary repository of information for the Library's infrastructure.

- 5. Fully implement the Arthur Young Library of Congress Management study finding and Facility Services' subsequent *draft* Process for Determining and Implementing Space Planning Priorities.**

The Library obviously recognizes the importance of establishing and implementing procedures for space project prioritization because procedures were developed in 1995, service unit liaisons were assigned, and initial service unit priorities were identified in order to integrate these priorities into a master schedule. It is time to move forward with the implementation.

- 6. Develop comprehensive, uniform, qualitative, and quantitative space standards for all Library facilities and for each type of functional space; use GSA government-wide standards where applicable.**

It is critical that the space standards include both qualitative and quantitative characteristics. Qualitative narrative would describe in detail the requirements for

such necessities as climate control, air filtration, security, lighting, fire protection, and adjacency. Quantitative narrative would prescribe the amount of square footage for each functional type of space.

Once these standards are developed, they can be applied to all existing spaces by functional type in order to assess the efficiency of current space use. In addition, when projecting future space requirements, these standards will serve as a defensible database to support the projected requirements.

7. Assign formal responsibility and accountability to ISS for fundamental facilities roles.

ISS should develop and maintain programs, policies, and/or procedures for:

- Standardization of space utilization
- Compliance with the recommended/proposed space standards, and
- Appropriateness of the usage of the space.

The ISS Director, as an active participating member of the Library Senior Management Reporting Group, also should stress to the other members of that team the critical importance of the inter-relationship between facilities and the Library's mission.

8. Require the Library to develop a Space Utilization Program.

The Library should design the program to facilitate the assessment of how efficiently they utilize all three Capitol Hill facilities. This Space Utilization Program should also be designed to help the Library maximize the efficient use of space in coordination with the Library's strategic vision.

3.2 SECURITY

3.2.1 Background

With more than 4,000 employees, three large buildings on Capitol Hill that are open to the public, more than 100 million items of stored property (the Collections), and their own police force, the Library has a unique blend of security concerns. These concerns arise from the potential for environmental emergencies, for example, fire or water damage in the stacks; the theft or destruction of invaluable material in the collections; or other forms of natural causes and criminal acts committed in Library buildings or surrounding streets.

Security at the Library encompasses the protection of Library buildings, systems, employees and visitors, sensitive information in both paper and electronic form, and the Library's collections. At the Library, security is organized and implemented through three distinct programs: physical security, information (computer) security, and personnel security.

The physical security program, including electronic security and the Library police, are organized centrally under the Protective Services Division (PSD) within the Integrated Support Services (ISS) Unit. The physical security program provides for the badging of Library employees and visitors and ensures the integrity of all physical barriers and locks used to control access to work and storage areas. The electronic security program repetitions is responsible for the specification, installation, and maintenance of existing and new electronic access controls, intrusion detection systems, and closed-circuit television systems. The Library's electronic security program currently focuses on the implementation of electronic security equipment to protect collection storage areas (book stacks) and reading rooms, and to facilitate the installation of security equipment to support temporary exhibitions. The day-to-day operations of Library security are implemented by the Library police. With a staff of over 104 full-time uniformed armed officers, the Library police provide control of building exteriors, entry, and exit points. They also guard highly valuable exhibits, patrol internal space, and respond to emergencies as needed.

The Library has a responsibility to protect information. To accomplish this, the Library has instituted an information security program operated by the Information Technology Service (ITS) Unit. Although in a formative stage, the Library has published a computer security policy that assigns roles and responsibilities for the protection of both sensitive, proprietary, and publicly held information.

The Library also has the responsibility of handling and storing classified information received from Congress and other sources. To facilitate this activity, the Library has established a personnel security program operated by the Personnel Security Office (PSO) with the authority to grant security clearances.

Sustaining, and hence protecting the Collections, are central to the Library's operations under its current mission. The establishment and maintenance of collections security has been a topic of intense discussion and debate within the Library over the past two decades. From the mid-1970's through 1995, workgroups have studied the effectiveness of both Library and collections security. A number of different security experts and consultants have been hired to analyze security. Internal committees were formed to develop collections security plans, and funding has been requested and spent to improve the protection of Library materials.

Although the Library has taken steps to improve security of the Collections over this period, there continue to be allegations of book theft and mutilations. These allegations have prompted Congress to question the status and condition of the security at the Library.

3.2.2 Methodology

Our assessment of this portion of the study centered around the following objectives:

- Determine whether the Library organizes and manages its physical, information, and personnel security program effectively
- Address whether the Library has spent the money allocated for security in a cost efficient and useful manner
- Determine whether the Library is handling its security functions in accordance with generally accepted security practices.

Our security evaluation team completed this task using a variety of methods to include: external research and analysis, face-to-face and telephone interviews, technical site surveys, and site visits.

Research and Analysis. We conducted literature searches on Library and collections security both specific to the Library of Congress, and to the library community in general. We researched trends in book and art thefts and mutilations to develop an understanding of the problems associated with this form of crime. We also identified and contacted library associations to find available documentation as to "best practices" for library security. Since the protection of Library materials is a relatively new topic for library associations, the American Library Association (ALA) and the Association of College and Research Libraries (ACRL) indicated that the development of protective standards has not been a high priority.

Interviews. We conducted a series of interviews both within and outside the Library. We also conducted telephone interviews with several national and international libraries to assess best practices for security available from the professional library community and lessons learned available from other libraries.

Site Surveys and Visits. We conducted extensive site surveys and assessment of Library buildings, storage facilities, and work areas. We viewed the placement and location of physical security equipment within the buildings, evaluated the security control and security monitoring locations, and assessed the operation of entry/exit points, and Library Police posts. We conducted tours with Library Police and Protective Services personnel to review operating procedures. We conducted site visits to comparable Federal archive and state library facilities, and visited several large academic libraries on the East Coast to compare their security measures with those of the Library of Congress.

3.2.3 Findings and Conclusions

The Library has a number of security related problems resulting from a fragmented organization, ineffective management procedures, lack of a clear security policy, ill-defined requirements for Collections security, incomplete risk management processes, and no comprehensive security plan. These findings are supported in the following sections. A case study focused specifically on the history and management of collections security is provided in Volume 2.

A. **The Library does not organize and manage its security functions in an effective manner.**

The Library suffers from a number of management problems that impact the security program. In addition to a fragmented security organization, unqualified PSD manager, and a budget structure that does not provide adequate cost information, little emphasis is placed on security related training or awareness. In response to some of these issues, PSD recently retained Computer Sciences Corporation (CSC) to conduct several assessments of the Library's protective programs. Although the CSC effort is not designed to provide a comprehensive overview of Library functions, CSC is under contract to the Library to survey security operations under four tasks: a physical security survey of occupied buildings; a study of Library Police operations with regard to collection protection; the design of a security awareness program; and an inventory study of selected collection items.

Specific issues in the security management area include the following:

1. **The Library has not appointed a single point of authority to manage all of its security programs.**

There is no single individual responsible and accountable for overall security of the Library. Current security responsibilities are fragmented across the Protective Services Division (physical security), Information Technology Services (computer security), and the Personnel Security Office (personnel security). Collections security is assigned to collection managers as supported by Protective Services. Focusing on the security of the Collections as part of the Physical Security Program, LCR 610-2 also places a "custodial" responsibility for Library materials on the division chiefs and Library officers who have custody of Library materials, the Library personnel who

make use of Library materials as part of their jobs, and the researchers who are granted access to Library materials under specific readership rules. Each of these groups has separate and distinct programs with its own policies and guidelines. Assigning responsibility for overall security to a single individual would allow the Library to move toward a more integrated approach to its security programs. For example, at Harvard University, a Library Security Officer has been appointed to oversee all security functions.

Within the physical security arena, organizational confusion exists regarding electronic security. The management and implementation of electronic security is currently divided between Protective Services and the Architect of the Capitol (AOC). The Library is responsible for temporary installations, i.e., to support exhibits, while the AOC purchases, installs, tests, and maintains permanent intrusion detection and access control equipment for the Adams, Jefferson, and Madison buildings.

A similar situation exists with respect to computer security. For applications and data residing on the mainframes, responsibility and authority for security has been designated to the Director, Information Technology Section.

The Library does have an effective Personnel Security organization managed by the Personnel Security Office. The PSO grants security clearances to about 300 Library of Congress staff who require access to classified information. The PSO also manages the determination of suitability for employment at the Library. In May 1995, OPM reviewed the PSO and concluded that the Library's personnel security and suitability programs are being operated in an effective manner, with only minor adjustments needed. In September 1995, the Library OIG conducted a review of the PSO and determined that "the Personnel Security Program effectively ensures that appropriate suitability and clearance investigations are initiated and issues uncovered by OPM are adjudicated."

- 2. The permanent manager of Protective Services Division (PSD) should have the security background needed to lead the technical and operational implementation of Library physical security programs.**

Within the Library's Integrated Support Services Service Unit, PSD operates the physical and electronic security sections and manages the Library police force. Protective Services is responsible for the development of physical and information security policies and has the largest staff dedicated to Library security. PSD provides the technical capability to identify security problems and to develop solution options. If long-term security planning and coordination are to occur, this position requires a security professional with extensive management experience on large security programs. Although the acting PSD manager gained an appreciation for Library security programs as the Chairman of the Collection's Security Oversight Committee,

Many of the Library's vulnerabilities are due to the age and nature of its facilities and its current operations. For example:

- The Adams and Jefferson facilities are vulnerable to fire damage because of the construction of the buildings and the amount of paper materials (fuel) stored within these buildings.
- Fire surveillance and control systems are implemented only to the extent that they do not degrade historic value.
- The Library buildings have a history of water leaks and other problems that cannot be fully resolved without degrading the historical character of the facilities or without large renovation expenditures.

With respect to computer security, the Library has not performed a risk assessment of its information systems. LCR 1620 stipulates that the "Library shall ensure that audits, reviews, certifications, and/or risk analyses be performed at least every 3 to 5 years which evaluate the adequacy and proper functioning of computer security safeguards and identify vulnerabilities that could heighten threats to existing or prospective automated data or resources." Until this is completed, there is no clear understanding of the risks, threats, or vulnerabilities that exist for automated resources at the Library.

4. The Library lacks a comprehensive plan that addresses physical, computer, collections, and personnel security.

As noted above, the Library did develop a Plan for Enhancing Collections Security in 1992 and has implemented a number of measures in accordance with that plan. These measures include: inspections at building entrances and exits, reduced access to the stacks, Police patrols in the stacks, installation of video surveillance cameras and anti-theft gates, personal belongings disallowed in reading rooms, and the installation of an automated Collections Control Facility that provides inventory control for books. The plan, however, did not call for regulations covering all aspects of security. For example, the Library plan does not cover each phase of the collections process from acquisition and storage to availability for use. LCR 610 is focused only on the use of Library materials. It does not set forth objectives for the protection of materials while they are in storage.

A more comprehensive security plan would allow the Library to improve its decision-making process by weighing the needs of all security programs, and providing the Librarian with a single point of reference for allocating resources. This is currently being done at the New York Public Library and at the Smithsonian Institution. Without such a complete plan, security implementation remains reactive to the latest problems or "wants" of the collections' managers and funding is reallocated against near term needs, e.g., to protect an exhibition. At the Smithsonian, there is a formal planning

process that requires a representative from every division to approve changes to the facility and to the security system.

In addition to having no comprehensive Library security plan, the Library lacks derivative plans in a number of key areas. For example, PSD has no systematic approach for planning or implementing physical security. The Library uses overlapping and multiple security hardware and procedures to achieve what it considers to be an effective level of physical protection. This approach has evolved more from the limitations to installation of security equipment in the buildings, than from a planned approach to security. Security for each specific collection depends, to a great extent, on the desires of the collection manager, previous consultant reports, and the experience of the Physical Security Section personnel. The Physical Security Section Manager works with individual collections managers to determine the level of protection to be afforded to the reading rooms and bookstacks assigned to that collection.

In the information technology area, the Library General Counsel directed Information Technology Services in 1989 to develop a computer security policy for the Library. The written policy is in compliance with the Computer Security Act of 1987 that requires "all Federal agencies to identify each computer system that contains sensitive information and prepare plans for the security and privacy of such systems." Library of Congress Regulation 1620 was drafted in 1989 to provide a framework for compliance with the Computer Security Act of 1987. Because of required input and coordination from each service unit and division within the Library, the LCR 1620 policy was not finalized until 1995.

In addition, the Library has not developed a contingency plan for its computer operations. LCR 1620 stipulates that the "Library shall require appropriate contingency and continuity of operations plans be developed, maintained, and coordinated." While the ITS organization has an understanding of emergency operating procedures, the Library has no written and approved contingency plan documenting procedures to develop, test, and maintain emergency response, backup operations, and disaster recovery. In lieu of a formal disaster recovery plan, the Library relies on other legislative sites that can be used as an off-site information resource to rebuild its systems. The Landover, Maryland, Library facility serves as the off-site backup location for critical Library processes. This back up arrangement does not satisfy all of the areas that should be included in a contingency plan such as how to deal with a fires in computer rooms or how to respond to hackers who attempt to enter into Library computer systems.

5. Implementation of security at the Library is conducted in an inconsistent and sometime undocumented manner.

The Library does not uniformly implement the physical, computer and collections security procedures it has developed. In some areas there are no procedures

at all. This further degrades the security posture of the Library. The following implementation issues at the Library were noted.

- a. **No complete set of procedures guides the actions of the Library police, and policies are not uniformly followed.**

The Library police operating guidelines are a collection of procedures that expand in reaction to Library needs. The Library uses LCR 1810-2, "Access to Library Buildings and Collections," to define entry/exit requirements for Library space. LCR 414-1, "Marking of Library Materials," is used to define exit inspection criteria. Library police jurisdiction is defined to be within the Library buildings and outside to the curb. The Office of the Librarian determines which entry/exit points will be opened and closed, and when. The Library police have an unwritten procedure to patrol only public space and the stacks. Written procedures on detaining or arresting individuals suspected of breaking Library rules are contained in Section AR of the Library of Congress Police Policy Manual.

Exit/entry inspections were observed to be inconsistent with published guidelines. In the Library Police Manual, Part 1, "Responsibilities and Procedures for Police Officers," it states that the Police should "ask each person before they go through the KNOGO if he/she has any Library materials. The answer to this question may be used as evidence in court..." We did not observe that this requirement was always followed.

The Physical Security Section also issues picture badges to employees that are printed on a magnetic stripe access control card. The Library has mandated that all employees wear badges. The magnetic stripe card is designed to provide access to the closed stacks. Not all employees are wearing the badges, thus making identification of authorized personnel difficult for the Police and the staff.

- b. **Electronic security systems at the Library have varying levels of effectiveness.**

The Library has an assortment of manual and electronically activated locks and door hardware that are fitted into existing doors. The absence of documented procedures for the implementation of locking hardware and exit/entry barriers has resulted in a "mixed bag" of physical security equipment. This "mixed bag" has created maintenance problems and difficulty interfacing with the electronic security system.

A card access system controls access to the closed stacks and restricted areas. The design of the system is effective, but operational problems with door exits and alarms have been reported. For example, false alarms occur when someone exits using the doorknob rather than the push bar. The push bar shunts the alarm of the door. If the doorknob is used, an alarm goes off which is noted in the communication center. Since these types of false alarms are continually reported, the police have stopped

responding. The KNOGO system, an exit-based detection system, appears to be an effective deterrent, but not all Library material has the appropriate sensors or tags.

Intrusion detection systems monitor the closed stacks and other restricted areas. The AOC stated that the intrusion detection systems, the same as those at the Library, perform well in the other Capitol Hill buildings. The Electronic Security Section Managers consider the AOC-provided intrusion detection systems to be unreliable, and as a result, have installed extra sensors and alarm monitoring equipment in several areas. Some doors in the stacks have as many as four door contacts. This difference of opinion has been a continuing source of conflict and has led to redundant expenditures for sensors.

Closed Circuit Television (CCTV) cameras and video tape recorders are used in reading rooms, stack areas, and for general surveillance and deterrence. Common area and entry/exit point surveillance is monitored in the command centers. Cameras in the Rare Book reading rooms are also constantly monitored. Video surveillance systems in the other reading rooms are effective where installed, because of the physical coverage of the cameras. The overall effectiveness of those cameras is diminished, however, by the fact that they are not regularly monitored. Although the Library has plans to install additional CCTV systems, finding suitable mounting and conduit locations is a problem.

c. The Library has implemented common commercial practices to secure its automated information resources.

Although we did not test specific computer security processes during our assessment, we did review available documentation and interview Library personnel. Because formal procedures and practices do not exist, the Library is using commonly acceptable commercial practices to protect their information resources. Such practices include:

- Inspection of log data for obvious trouble signs
- Inspection of legitimate files available for transfer
- Investigation of all suspicious e-mail received
- Close review of the Computer Emergency Response Team (CERT) advisory to keep abreast of attacks attempted on other systems and the recommended safeguard protections.

Access to UNIX systems at the Library is closely controlled by limited distribution of system administration privileges within the ITS division. A medium-security configuration on IBM mainframes at the Library provides automated security features to determine the secure state of the system. Commercial off-the-shelf security

products are installed on the Library servers. Access to files is authorized by data owners and is controlled by the system administrator.

3.2.5 Recommendations

The following recommendations are considered critical to the implementation of an effective, successful security program at the Library.

1. **The Library needs to organize and manage its security functions in a less fragmented manner.**
 - The Library needs to identify a single Library Security Officer (LSO) responsible for all security functions in the Library, including physical, information and personnel security. The LSO should be responsible for providing the leadership and focus for the security organization and for developing and implementing the Library's overall security policy.
 - The Library should investigate transitioning full responsibility for the design, component selection, installation, integration, and operation of all permanent and temporary electronic security components and systems to the AoC. This would eliminate confusion and reduce the need for the Library to maintain expertise in electronic security systems.
 - The Library needs to provide management with more detailed information on security program costs and performance. This will ensure that adequate and complete information is available to determine how security dollars should be spent and whether the money is being spent wisely.
 - The Library should establish a robust training program for its personnel, to include general security awareness and computer security. Since the staff must help enforce security policies, it needs to understand the value of security in protecting the collections for future generations.
2. **The Library needs to change its security program to conform with generally accepted security practices.**
 - The Library needs to establish a comprehensive and overarching security policy based on a single set of requirements. Accordingly, the Librarian should publish a statement of the Library's objectives for the protection of personnel, property, and information. This statement should take the form of a top-level Library Regulation from which all other regulations can be derived.
 - The Library needs to implement a comprehensive risk management process, starting with a Library-wide risk assessment, to support ongoing decision

making and allocation of protective resources. The understanding of security-related threats and vulnerabilities is an essential component of an effective security program. The Library should identify and understand real and potential threats, and articulate current weaknesses and vulnerabilities. Also, it needs to formulate and prioritize its risks by potential severity. This information should be used to make budget prioritization decisions on security initiatives.

- After Library security requirements and risks are identified and prioritized, a comprehensive security plan that incorporates elements from the 1992 Plan for Enhancing Collections Security should be developed to direct the implementation of security across all Library operating elements and to drive the optimal allocation of personnel and financial resources to fulfill Library security goals and objectives.
- The Library needs to implement the security policies and procedures it develops in a rigorous manner.

3.3 TECHNOLOGY USAGE

Although information is still delivered in hardcopy form, i.e., newspapers, magazines, and books, computer technology is rapidly liberating information from the limitations of print. The Internet has become the agent of change that is accelerating global, decentralized access to information. In the next decade, the pervasive presence of computers and advances in telecommunications will profoundly affect the nature of the Library and its mission. People will no longer be precluded from accessing information based on geography or time. The digital revolution will enable people to access and create the specific information they need. Millions of bits of information will be stored in computers, rather than just on Library shelves. Hardcopy physical material, normally in a single media, is giving way to a multimedia, hyperlinked "logical" world where physical handling becomes at best a second order issue. Multimedia processing has moved us from a singular thinking world to a world where information can now be viewed and heard, both at the same time. Technology is the critical element that is revolutionizing the way people work, learn, and live.

The Library is uniquely positioned to take a pivotal role in this information revolution. Bold leadership and innovations in cataloging, storage, and presentation techniques will be required to meet the needs of future information consumers. The Library has demonstrated such leadership in the past. For example, in the 1960-70 timeframe, the Library developed a capability that enabled libraries around the world to develop automated cataloging systems for efficient information access. Such creativity and innovation will become even more important in the digital age.

3.3.1 Methodology

The purpose of this portion of the study was to determine whether the Library is properly positioned in terms of strategy, leadership, organization, business processes, data, and technology, to serve Congress and the Nation effectively in this new information revolution. We also assessed the level of strategic planning required to enable the Library to take full advantage of today's technology. During the course of this study, we established technology benchmarks based on site visits to large research institutions, public libraries, commercial information providers, and technology development organizations.

Our assessment centered around the following specific objectives:

- Address whether the information technology (IT) strategy is linked to the overall Library mission
- Evaluate whether integrated IT planning, budgeting, and performance measurement processes exist

- Define the degree to which business unit heads in the Library interact with Information Technology Services (ITS) to make joint decisions on IT spending and direction
- Evaluate existing Library information systems and their effectiveness in supporting the current mission and operations
- Evaluate the current Library technology organization and its effectiveness in delivering technology enabling solutions
- Define relevant enabling technologies and assess their potential impact on Library operations
- Define "best practices" that are employed by similar organizations in Government, academia, and industry; and assess how these practices could be used to enhance the Library's operations.

Using GAO's Strategic Information Management Self-Assessment Toolkit, we first examined the Library's information needs from the perspective of current operational needs and the potential for exploiting new technologies. As part of this assessment, we focused on acquiring a sound understanding of the factors affecting the Library's mission and goals. These factors included its organization, functions, and supporting processes. In addition, we defined and assessed enabling technologies and their potential for improving Library operations. Through a combination of interviews and site visits, we also examined best practices from similar Government, industry, and academic institutions. The list of site visits is provided in Exhibit 3-6.

EXHIBIT 3-6
Benchmark Site Visits

SITE	RATIONALE
Patent and Trademark Office (PTO)	To review lessons learned in the areas of facilities, security, and technology, including the digital capture of patents and trademarks and the dissemination of information.
National Archives and Records Administration (NARA)	To review its approach to record and document storage.
Smithsonian Institution	To review its large volume of physical material, data catalog, security, and material access controls.
New York Public Library	To review its methods and techniques for managing its vast holdings and the role that technology plays in day-to-day operations.
Chicago Public Library	To review its approach to using technology to meet the needs of the public.
Harvard University	To review its extensive archive holdings and its approach to an Integrated Library System (ILS).
Massachusetts Institute of Technology (MIT)	To review its innovation in on-line access, information storage and retrieval, and information sharing.
Indiana University	To review innovation in the area of digital information handling (sound and video) and support for the Internet. In addition, to discuss their views on copyright information processing.
Carnegie Mellon University	To review innovation in the area of digital information handling and its support for the Internet.
Purdue University	To review its innovation in on-line information access, its Thorplus Web site, and information sharing.
The University of California at Berkeley	To review its information technology infrastructure and the changes it has made to the School of Library Science.
The University of California at Los Angeles	To review its approach to an Integrated Library System (ILS).
On-line Computer Library Center (OCLC)	To review its leadership in information cataloging and data sharing.

3.3.2 Findings and Conclusions

The Library has not recognized the importance of information technology as an investment, nor does it have a strategic information management process linked to customer needs and mission objectives. Information technology planning, budgeting, and evaluation processes are not tied into the overall Library strategy. Finally, the Library has not built an organization-wide technology infrastructure to address all of its current and future needs. Staff technology skills, anchored in old mainframe-based (legacy) systems, will inhibit the Library's transition into a modern client-server environment. These findings are supported in the following sections.

A. A greater strategic focus on Information Resources Management (IRM) would position the Library to make better use of technology.

The Library does not view technology in a strategic context, nor has it focused on what information is needed to run the organization. This is evidenced by the fact that there is no single system-level architecture in place, complete with a performance measurement component, that can facilitate the organization's decision making process. Through interviews with Library staff, we found that IT prioritization decisions are not based on a clearly defined strategy and are not directly linked to the Library's mission objectives. This situation has inhibited the Library from moving technology forward to better support the user community.

The Library's leaders have not secured the full support and commitment of the entire organization and no sense of common ownership has been created at all management levels. The New York Public Library, on the other hand, is an example of an organization that views technology as integral to its mission. It started a strategic planning process in 1992 and now has an operational focus with buy-in at all levels of the organization. The New York Public Library would serve as an excellent model for the Library of Congress in this arena. The Massachusetts Institute of Technology (MIT) also has an excellent strategic plan that is used as a communications tool for the staff and to support staff requests, budget planning, and task prioritization.

Lack of a recognized need for a global vision and strategy has resulted in costly projects that never achieved their stated goals or had to be canceled prior to reaching their objectives. The Resystemization effort, which was initiated to modernize the existing cataloging environment, failed, in part, as a result of these missing components. Project leaders initially recognized the importance of the process but the commitment to seeing this project succeed was not present.

1. The ITS organization does not have a global view of the Library's information needs.

The current ITS organization views itself as an applications development and maintenance organization, largely reactive to the day-to-day operational needs of the Library. The Library does not view ITS in a strategic role as the manager of all the organization's information needs. It does not integrate all information requirements Library-wide and has no communication strategy for distributing technology decisions, soliciting recommendations, and documenting problems and solutions.

ITS supplies maintenance services for the legacy systems and the network infrastructure required to support current library operations. It continues to accept new tasks that monopolize the development staff, while neglecting capabilities that would better assist the overall organization. For example, the Library has focused on the THOMAS project, the initiation of the National Digital Library (NDL) project, and the creation of a digital video capture environment to record Congressional sessions, while

neglecting enhancements needed in other areas, such as cataloging. Even in new system development projects, tasks are structured as a "job jar" list. This is evident in the way that IT responsibilities are allocated and managed in the Library. Specifically:

- There is no clear delineation of responsibilities between ITS and the service units with respect to technology implementation.
- The shortage of resources, the perceived need to provide equitable support across the service areas, and constant shifts in priorities cause technical staff to be inefficiently "time-shared" across numerous projects.

Information required to make key technology decisions is not always available and, as a result, ITS decisions are made from incomplete data. It is almost impossible today to perform a cost benefit trade-off analysis on IT projects because the necessary information is not tracked and in a usable form.

As a result of not tracking pertinent information concerning project performance and expenditures, it is difficult to determine when tasks will be done or how much they will cost. The cost may not just be financial in nature but may include lost opportunities to provide better service to the organization.

In summary, Exhibit 3-7 compares the difference between the current ITS approach used by the Library and an IRM organizational approach that we derived from our site visits.

EXHIBIT 3-7 Contrasting ITS and IRM Approaches

Finding Areas	ITS Approach	IRM Approach
Planning focus Evidence: Tasks are undertaken in a "job jar" fashion. Staff is constantly reshuffled on a weekly basis to meet the current priority.	<ul style="list-style-type: none"> • Tactical in nature - the goal is to maximize near term benefit • Operationally driven • Reactive • Decisions based on competing initiatives 	<ul style="list-style-type: none"> • Strategic in nature - the goal is to maximize long-term as well as short-term objectives • Mission driven. • Proactive • Decisions based on end-to-end, integrated capabilities
Organization orientation and leadership Evidence: Information is not the cornerstone of the organization. Detailed status reports and process metrics are not gathered, analyzed and used to make cost/benefit analysis decisions	<ul style="list-style-type: none"> • IT Director • Technology driven • Product provider • Support organization 	<ul style="list-style-type: none"> • CIO • Information solution enabled • Service provider • Integrated team
Information architecture Evidence: The current environment does not have an overarching infrastructure. It is difficult to move information easily across the environment without additional software development.	<ul style="list-style-type: none"> • Stovepipe approach based on current short-term needs 	<ul style="list-style-type: none"> • Integrated based on open long-term needs

2. The lack of a strategic, mission-driven perspective results in divergent systems and a duplication of effort.

The lack of a single IRM focus within the Library has resulted in the introduction of competing, often divergent, technology infrastructures. For example, CRS implemented its own electronic mail system, network operating system, and Window

management system because CRS believed that ITS could not meet its needs. The technology environment that CRS implemented is not totally compatible with the infrastructure in the rest of the Library. Moreover, CRS has had to provide its own staff to support the CRS network, and electronic mail environment. These resources cannot be shared with ITS because of the different skills required.

3. Without a formal strategic plan or an integrated IRM planning process, prioritization decisions are not always consistent with mission needs.

Because the ITS organization views itself in a tactical versus a strategic role, the Library does not have an IRM plan that focuses technology investments and resources on Library-wide core mission goals, business processes, and customer needs. As a result, there is no solid basis for allocating resources and making priority decisions with respect to IT products and services.

The Library's current IRM planning process is informal, reactive to short-term needs, and not rooted in a comprehensive IT vision. As a result, resource allocation and technology decisions are often based on perceived short-term requirements rather than on established mission priorities. Projects are often prioritized based on the availability of resources rather than on their benefit to the organization and its mission. The following specific examples illustrate this point. Although they demonstrate the flexibility and responsiveness of the ITS staff, their undertaking diverted scarce resources from other priorities.

- In December 1994, Congress directed the Library to provide a gateway for sharing legislative information on the Internet. The goal was to have this capability in place by the start of the new Congress on January 5, 1995. The Library responded by developing a capability called THOMAS. To satisfy this quick-turnaround task, three people were redirected from other key projects such as the Global Legal Information Network and the Bibliographic WorkStation (BWS).
- The Technology Assessment Group has not focused on assessing innovations which could streamline the Library's operations or enhance their product delivery capabilities. While some of their work has been lauded from outside the Library, it is not supporting any of the Library's stated internal strategic objectives.

IT priorities for the Library have been described and documented in the ITS Strategic Plan, last revised in September 1995. This plan exemplifies the planning process used by ITS in establishing tactical priorities for the Library. This process consists of the following steps:

- ITS customers and constituencies are identified.

Although this effort represents a significant step in the right direction, the Capitol Hill buildings account for only part of the overall Library of Congress infrastructure, and their use by Facility Service represents only a partial segment of users that require access to this type of data. ISS Directorate, the Security department, as well as some service units, and even the AOC, all need access to this information. Unfortunately, these different groups all use different tools and systems to maintain and manage assigned areas of responsibility, each utilizing redundant CAD drawing files in varying degrees of completeness and accuracy.

5. The Library does not have an integrated project prioritization process.

An integrated, Library-wide prioritization process has not been established. This issue was initially addressed in the 1989 Arthur Young Management study. The purpose of a project prioritization process is to establish organization-wide priorities, assign individuals to high priority work, and manage work backlog. The Arthur Young Management study recommended the establishment of such a project prioritization process. The study also recommended that all ISS departments, service units, and Library management be included in the process of assigning priorities and allocating resources based on those priorities.⁶

Library of Congress managers, particularly those within Facility Services, commented that planning and executing work assignments is difficult and disorganized. New projects are continuously forced into the queue ahead of other projects already in the pipeline which results in project delays. According to Facility Services, initial steps were taken to introduce a prioritization process; however, procedures were never fully developed or implemented due to organizational changes within ISS that left the issue of implementation responsibilities in question.

The failure to appropriately set priorities is increasing the time and cost required to plan, design, and execute user requests for space design and modification because resources are not being efficiently allocated based on priorities. Continuously shifting priorities is causing designers to stop work on a particular project for weeks on end in order to work on a new, higher-priority project. This frequently causes AOC shop work to come to a halt and the reassignment of resources to other projects which causes costly delays of all facilities design and construction projects.

Facility Services has specifically identified numerous examples of work stoppages, lengthy delays, and reassignment of resources, including a daycare center project that took priority and nearly stopped AOC shop activities on other projects. Another example cited was the completion of a room in the poetry area which

⁶Data from, the January 26, 1989, Arthur Young Library of Congress Management Review.

caused work stoppages on other projects. These examples illustrate the loss of work management control resulting from the inability to set priorities and deal with them in an organized fashion.

6. The Library does not have comprehensive space management standards.

Space utilization for each facility varies across service units and functions. The lack of approved and promulgated corporate space standards inhibits the establishment of a realistic baseline to assess this variance. The lack of such standards also prevents the development of defensible space requirements that can be used to evaluate facility options, address identified needs for increased capacity, develop short and long range planning options for additional facilities, and assess the budgetary impact of space on the Library. As a result, the efficiency and equitable distribution of current space use cannot be determined, and therefore controlled, and a supporting, auditable projection of additional space requirements cannot be made. Space management standards would help to control increased space requirements and costs.

The Facility Services Division has developed facilities space management standards for the Madison Building administrative offices and conference rooms and furniture standards for the Madison, Jefferson, and Adams buildings.⁷ However, there are no uniform space standards for Library-unique functions such as stack space, media storage, general storage areas, reading rooms, and processing areas. This lack of comprehensive space management standards is demonstrated in the Library's 23 reading rooms which are all configured to use space differently. An example of a good space management standard for a textual research room is: "A 600 square foot area is necessary. Qualitatively, the room must be climate controlled, with appropriate air filtration. Special security, lighting, and acoustics considerations are required, and the furniture must be suitable."⁸

Although the Library has developed detailed stack space analyses for the Fort Meade Storage Facility project, they are not being further developed into comprehensive space standards that can be used for existing facilities.

7. The ISS Facility Services Department has assumed a reactive role in terms of facilities operations.

Facilities decisions come from multiple, uncoordinated sources such as the numerous committees that are frequently formed to evaluate and establish facilities

⁷Data from the December, 1989, Madison Building Offices and Conference Rooms Revised Standards Document.

⁸Data from the July 31, 1995, National Archives and Records Administration, Report of the NARA Space Planning Team.

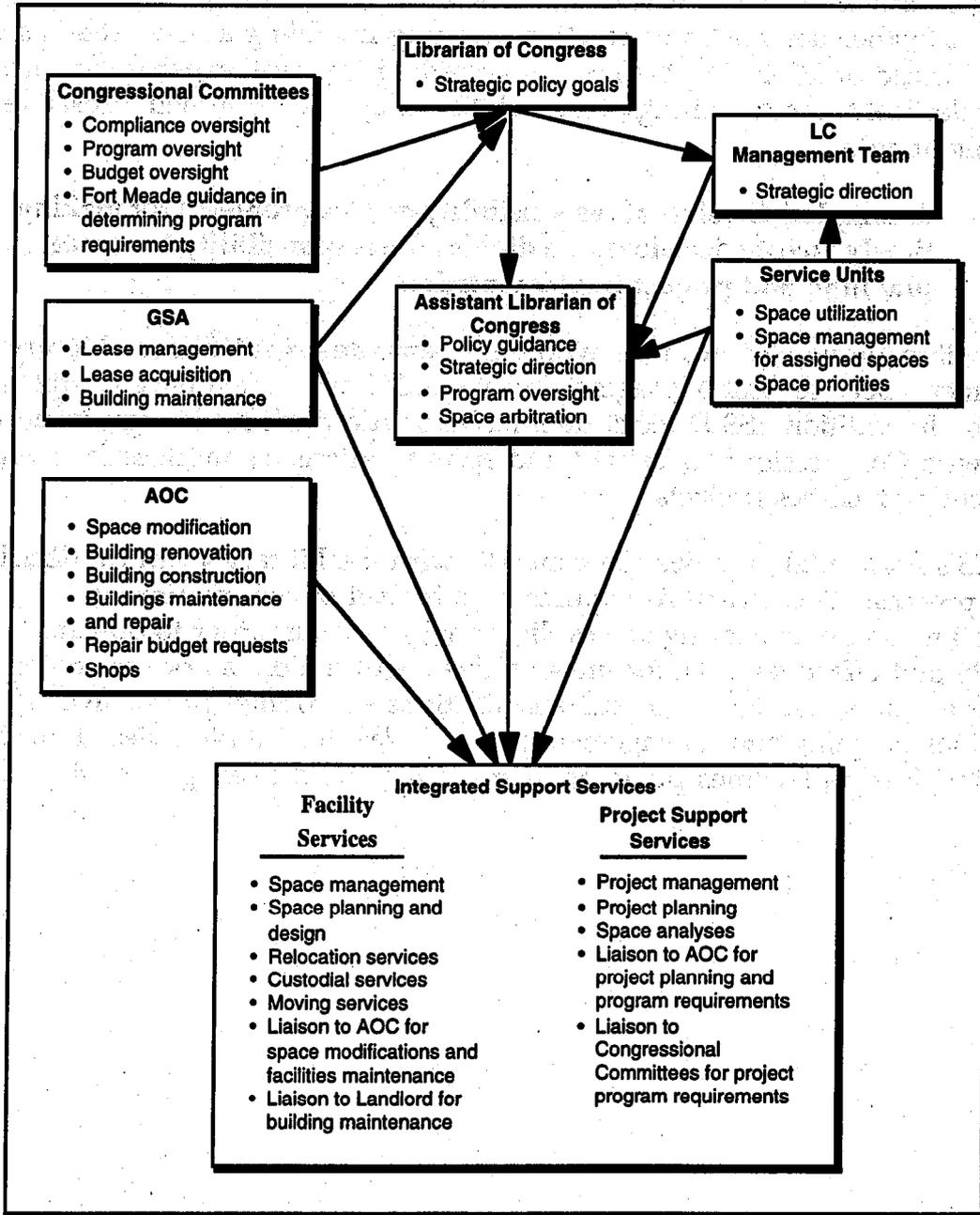
requirements. In addition, the various service units establish their own facility space requirements and make their demands known to ISS. This multiplicity of decision-making authorities greatly complicates the coordination and execution of planning efforts across the organization. The Fort Meade case study in Volume 2 of this report further demonstrates reactive planning involving a new off-site storage facility. Instead of ISS taking the lead on providing technical expertise for these facilities decisions and assuming accountability, they have assumed a reactive management role.

- 8. A complex division of responsibility creates problems for making timely facility decisions and divides the responsibility for space planning and project implementation.**

Facility Services coordinates with three separate organizations: Library Management, Service Unit Managers, and the AOC, who often have conflicting priorities. In addition, ISS Directorate interfaces with these same organizations as well as with Congressional oversight and appropriations committees for planning and executing facilities projects.

ISS's horizontal organization contrasts with the Library's vertical decision making process. This structure requires a high level of communication, coordination, and data sharing across divisional groups in order to operate efficiently and effectively. Unfortunately, this coordination is not happening, resulting in voids, overlaps, and suboptimizations - a counter-productive effect on the facilities planning and management process. Exhibit 3-3 identifies all of the groups involved in facilities planning, management, and oversight for the Library.

EXHIBIT 3-3 Facilities Planning And Management Responsibilities And Decision Making Influences



3.1.4 Recommendations

The Library's greatest challenge is to think more strategically about its facilities due to the inherent inter-relationship between the Library's mission and its facilities. Treating facilities as an important strategic element for accomplishing the

Library's mission will address the most pressing needs the Library is currently facing: severe space resource constraints, degradation of the quality of collections environments, and no comprehensive long-term facilities requirements plan.

As the Library develops a comprehensive strategic plan that integrates its mission and technology, facilities planning and management operations must continue to be service-oriented and designed around the needs of Library users. Facility resources should be managed appropriately in support of those needs. This shift should be accomplished through the effective and efficient coordination of facility planning and implementation activities.

The following are recommendations for improving the Library's facilities planning and management decision making and facilities utilization strategies.

1. Develop a Library-wide Strategic Facilities Plan.

The Library's organizational decision making structure directly impacts its ability to strategically plan and execute an effective and comprehensive planning program in order to satisfy its collections storage needs. Authority and coherent direction should originate from upper management in the Library's hierarchy, at the Associate Librarian of Congress level, and be channeled directly along vertical and horizontal reporting lines. The direction given to facilities must be strategic and based upon a thorough understanding of the inherent inter-relationship between the Library's mission and its facilities in order to provide an attainable and coordinated strategic facilities planning framework for staff execution.

Therefore, it is recommended that the responsibility for strategic facilities planning be formally assigned to an upper management position that places a clear focus on facilities operational requirements. This position must carry with it clear authority and accountability to develop the strategic plan for the facilities divisions and all Library liaisons.

A strategic facilities plan will enable the Library to determine and control their role in the planning and management of key factors affecting space and facility use. It will also help them define the inter-relationships between facilities and how they support the collections through the utilization of a comprehensive process to guide development. Exhibit 3-4 models a strategic facilities plan that may be used in developing a Library-wide plan.

2. The Library of Congress should design, develop, and implement a data sharing methodology.

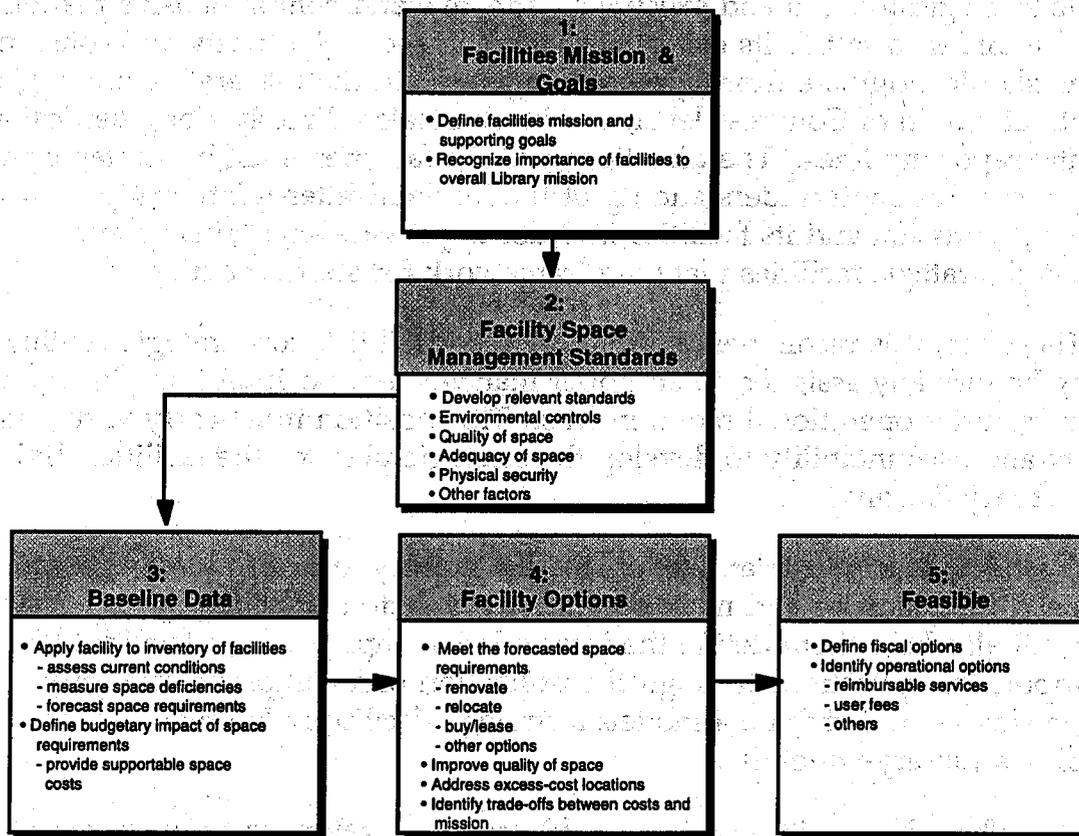
The ISS Director must create the appropriate mechanisms to ensure coordination between facilities departments and facilitate decision making and project planning across the ISS team. One such mechanism could be the establishment of mandatory and routine space management reviews with

representation from all facilities divisions. Another mechanism would involve the design and implementation of a data sharing system.

3. ISS should be given "ownership" of the Library facilities to ensure both the optimal use of Library space and to ensure proper support for the collections.

Facility Services needs to operate as the owner of the spaces, a role the service units currently assume. This change will help Facility Services operate more proactively and efficiently. It will also insert them into the collections management process, ensuring that the availability of appropriate space is addressed in a timely manner in the case of special collections, such as the WETA/PBS tape archives that were awaiting the arrival of storage shelves in the Landover Annex during our site visits.

EXHIBIT 3-4 Model Strategic Facilities Plan



- 4. Develop and implement an integrated, shared, and technically accurate set of facilities-specific CAD drawings and associated databases.**

In order to implement and manage an integrated, shared, and accurate database, a computer aided facilities management (CAFM) system should be developed to provide the necessary tools for long-term planning and infrastructure management. These tools will provide Library personnel with quick and easy access to accurate information on each functional component. Paramount to this accomplishment is the issue of standardizing hardware platforms and software tools in a CAFM system. This standardized environment is a prerequisite for local or wide area networks that utilize client server technology to connect the various user locations. The Library's Facility Design and Construction Section has already purchased some of the major hardware and software components that would be needed to implement an integrated CAFM system.

An integral component of developing a CAFM system is the definition of a functional data sharing process and a concept of operation that promotes maximum efficiency across facility management divisions in terms of resources, operational capabilities, and cost. This concept of operations should provide the capability for bi-directional flow of facilities planning and space management information between users, ultimately support the decision-making process with accurate and timely data, and their consolidation into a strategic level executive information system.

It is important that the integrated facilities planning and space management system database become the primary repository of information for the Library's infrastructure.

- 5. Fully implement the Arthur Young Library of Congress Management study finding and Facility Services' subsequent *draft* Process for Determining and Implementing Space Planning Priorities.**

The Library obviously recognizes the importance of establishing and implementing procedures for space project prioritization because procedures were developed in 1995, service unit liaisons were assigned, and initial service unit priorities were identified in order to integrate these priorities into a master schedule. It is time to move forward with the implementation.

- 6. Develop comprehensive, uniform, qualitative, and quantitative space standards for all Library facilities and for each type of functional space; use GSA government-wide standards where applicable.**

It is critical that the space standards include both qualitative and quantitative characteristics. Qualitative narrative would describe in detail the requirements for

such necessities as climate control, air filtration, security, lighting, fire protection, and adjacency. Quantitative narrative would prescribe the amount of square footage for each functional type of space.

Once these standards are developed, they can be applied to all existing spaces by functional type in order to assess the efficiency of current space use. In addition, when projecting future space requirements, these standards will serve as a defensible database to support the projected requirements.

7. Assign formal responsibility and accountability to ISS for fundamental facilities roles.

ISS should develop and maintain programs, policies, and/or procedures for:

- Standardization of space utilization
- Compliance with the recommended/proposed space standards, and
- Appropriateness of the usage of the space.

The ISS Director, as an active participating member of the Library Senior Management Reporting Group, also should stress to the other members of that team the critical importance of the inter-relationship between facilities and the Library's mission.

8. Require the Library to develop a Space Utilization Program.

The Library should design the program to facilitate the assessment of how efficiently they utilize all three Capitol Hill facilities. This Space Utilization Program should also be designed to help the Library maximize the efficient use of space in coordination with the Library's strategic vision.

3.2 SECURITY

3.2.1 Background

With more than 4,000 employees, three large buildings on Capitol Hill that are open to the public, more than 100 million items of stored property (the Collections), and their own police force, the Library has a unique blend of security concerns. These concerns arise from the potential for environmental emergencies, for example, fire or water damage in the stacks; the theft or destruction of invaluable material in the collections; or other forms of natural causes and criminal acts committed in Library buildings or surrounding streets.

Security at the Library encompasses the protection of Library buildings, systems, employees and visitors, sensitive information in both paper and electronic form, and the Library's collections. At the Library, security is organized and implemented through three distinct programs: physical security, information (computer) security, and personnel security.

The physical security program, including electronic security and the Library police, are organized centrally under the Protective Services Division (PSD) within the Integrated Support Services (ISS) Unit. The physical security program provides for the badging of Library employees and visitors and ensures the integrity of all physical barriers and locks used to control access to work and storage areas. The electronic security program repetitions is responsible for the specification, installation, and maintenance of existing and new electronic access controls, intrusion detection systems, and closed-circuit television systems. The Library's electronic security program currently focuses on the implementation of electronic security equipment to protect collection storage areas (book stacks) and reading rooms, and to facilitate the installation of security equipment to support temporary exhibitions. The day-to-day operations of Library security are implemented by the Library police. With a staff of over 104 full-time uniformed armed officers, the Library police provide control of building exteriors, entry, and exit points. They also guard highly valuable exhibits, patrol internal space, and respond to emergencies as needed.

The Library has a responsibility to protect information. To accomplish this, the Library has instituted an information security program operated by the Information Technology Service (ITS) Unit. Although in a formative stage, the Library has published a computer security policy that assigns roles and responsibilities for the protection of both sensitive, proprietary, and publicly held information.

The Library also has the responsibility of handling and storing classified information received from Congress and other sources. To facilitate this activity, the Library has established a personnel security program operated by the Personnel Security Office (PSO) with the authority to grant security clearances.

Sustaining, and hence protecting the Collections, are central to the Library's operations under its current mission. The establishment and maintenance of collections security has been a topic of intense discussion and debate within the Library over the past two decades. From the mid-1970's through 1995, workgroups have studied the effectiveness of both Library and collections security. A number of different security experts and consultants have been hired to analyze security. Internal committees were formed to develop collections security plans, and funding has been requested and spent to improve the protection of Library materials.

Although the Library has taken steps to improve security of the Collections over this period, there continue to be allegations of book theft and mutilations. These allegations have prompted Congress to question the status and condition of the security at the Library.

3.2.2 Methodology

Our assessment of this portion of the study centered around the following objectives:

- Determine whether the Library organizes and manages its physical, information, and personnel security program effectively
- Address whether the Library has spent the money allocated for security in a cost efficient and useful manner
- Determine whether the Library is handling its security functions in accordance with generally accepted security practices.

Our security evaluation team completed this task using a variety of methods to include: external research and analysis, face-to-face and telephone interviews, technical site surveys, and site visits.

Research and Analysis. We conducted literature searches on Library and collections security both specific to the Library of Congress, and to the library community in general. We researched trends in book and art thefts and mutilations to develop an understanding of the problems associated with this form of crime. We also identified and contacted library associations to find available documentation as to "best practices" for library security. Since the protection of Library materials is a relatively new topic for library associations, the American Library Association (ALA) and the Association of College and Research Libraries (ACRL) indicated that the development of protective standards has not been a high priority.

Interviews. We conducted a series of interviews both within and outside the Library. We also conducted telephone interviews with several national and international libraries to assess best practices for security available from the professional library community and lessons learned available from other libraries.

Site Surveys and Visits. We conducted extensive site surveys and assessment of Library buildings, storage facilities, and work areas. We viewed the placement and location of physical security equipment within the buildings, evaluated the security control and security monitoring locations, and assessed the operation of entry/exit points, and Library Police posts. We conducted tours with Library Police and Protective Services personnel to review operating procedures. We conducted site visits to comparable Federal archive and state library facilities, and visited several large academic libraries on the East Coast to compare their security measures with those of the Library of Congress.

3.2.3 Findings and Conclusions

The Library has a number of security related problems resulting from a fragmented organization, ineffective management procedures, lack of a clear security policy, ill-defined requirements for Collections security, incomplete risk management processes, and no comprehensive security plan. These findings are supported in the following sections. A case study focused specifically on the history and management of collections security is provided in Volume 2.

A. **The Library does not organize and manage its security functions in an effective manner.**

The Library suffers from a number of management problems that impact the security program. In addition to a fragmented security organization, unqualified PSD manager, and a budget structure that does not provide adequate cost information, little emphasis is placed on security related training or awareness. In response to some of these issues, PSD recently retained Computer Sciences Corporation (CSC) to conduct several assessments of the Library's protective programs. Although the CSC effort is not designed to provide a comprehensive overview of Library functions, CSC is under contract to the Library to survey security operations under four tasks: a physical security survey of occupied buildings; a study of Library Police operations with regard to collection protection; the design of a security awareness program; and an inventory study of selected collection items.

Specific issues in the security management area include the following:

1. **The Library has not appointed a single point of authority to manage all of its security programs.**

There is no single individual responsible and accountable for overall security of the Library. Current security responsibilities are fragmented across the Protective Services Division (physical security), Information Technology Services (computer security), and the Personnel Security Office (personnel security). Collections security is assigned to collection managers as supported by Protective Services. Focusing on the security of the Collections as part of the Physical Security Program, LCR 610-2 also places a "custodial" responsibility for Library materials on the division chiefs and Library officers who have custody of Library materials, the Library personnel who

make use of Library materials as part of their jobs, and the researchers who are granted access to Library materials under specific readership rules. Each of these groups has separate and distinct programs with its own policies and guidelines. Assigning responsibility for overall security to a single individual would allow the Library to move toward a more integrated approach to its security programs. For example, at Harvard University, a Library Security Officer has been appointed to oversee all security functions.

Within the physical security arena, organizational confusion exists regarding electronic security. The management and implementation of electronic security is currently divided between Protective Services and the Architect of the Capitol (AOC). The Library is responsible for temporary installations, i.e., to support exhibits, while the AOC purchases, installs, tests, and maintains permanent intrusion detection and access control equipment for the Adams, Jefferson, and Madison buildings.

A similar situation exists with respect to computer security. For applications and data residing on the mainframes, responsibility and authority for security has been designated to the Director, Information Technology Section.

The Library does have an effective Personnel Security organization managed by the Personnel Security Office. The PSO grants security clearances to about 300 Library of Congress staff who require access to classified information. The PSO also manages the determination of suitability for employment at the Library. In May 1995, OPM reviewed the PSO and concluded that the Library's personnel security and suitability programs are being operated in an effective manner, with only minor adjustments needed. In September 1995, the Library OIG conducted a review of the PSO and determined that "the Personnel Security Program effectively ensures that appropriate suitability and clearance investigations are initiated and issues uncovered by OPM are adjudicated."

- 2. The permanent manager of Protective Services Division (PSD) should have the security background needed to lead the technical and operational implementation of Library physical security programs.**

Within the Library's Integrated Support Services Service Unit, PSD operates the physical and electronic security sections and manages the Library police force. Protective Services is responsible for the development of physical and information security policies and has the largest staff dedicated to Library security. PSD provides the technical capability to identify security problems and to develop solution options. If long-term security planning and coordination are to occur, this position requires a security professional with extensive management experience on large security programs. Although the acting PSD manager gained an appreciation for Library security programs as the Chairman of the Collection's Security Oversight Committee,

Many of the Library's vulnerabilities are due to the age and nature of its facilities and its current operations. For example:

- The Adams and Jefferson facilities are vulnerable to fire damage because of the construction of the buildings and the amount of paper materials (fuel) stored within these buildings.
- Fire surveillance and control systems are implemented only to the extent that they do not degrade historic value.
- The Library buildings have a history of water leaks and other problems that cannot be fully resolved without degrading the historical character of the facilities or without large renovation expenditures.

With respect to computer security, the Library has not performed a risk assessment of its information systems. LCR 1620 stipulates that the "Library shall ensure that audits, reviews, certifications, and/or risk analyses be performed at least every 3 to 5 years which evaluate the adequacy and proper functioning of computer security safeguards and identify vulnerabilities that could heighten threats to existing or prospective automated data or resources." Until this is completed, there is no clear understanding of the risks, threats, or vulnerabilities that exist for automated resources at the Library.

4. The Library lacks a comprehensive plan that addresses physical, computer, collections, and personnel security.

As noted above, the Library did develop a Plan for Enhancing Collections Security in 1992 and has implemented a number of measures in accordance with that plan. These measures include: inspections at building entrances and exits, reduced access to the stacks, Police patrols in the stacks, installation of video surveillance cameras and anti-theft gates, personal belongings disallowed in reading rooms, and the installation of an automated Collections Control Facility that provides inventory control for books. The plan, however, did not call for regulations covering all aspects of security. For example, the Library plan does not cover each phase of the collections process from acquisition and storage to availability for use. LCR 610 is focused only on the use of Library materials. It does not set forth objectives for the protection of materials while they are in storage.

A more comprehensive security plan would allow the Library to improve its decision-making process by weighing the needs of all security programs, and providing the Librarian with a single point of reference for allocating resources. This is currently being done at the New York Public Library and at the Smithsonian Institution. Without such a complete plan, security implementation remains reactive to the latest problems or "wants" of the collections' managers and funding is reallocated against near term needs, e.g., to protect an exhibition. At the Smithsonian, there is a formal planning

process that requires a representative from every division to approve changes to the facility and to the security system.

In addition to having no comprehensive Library security plan, the Library lacks derivative plans in a number of key areas. For example, PSD has no systematic approach for planning or implementing physical security. The Library uses overlapping and multiple security hardware and procedures to achieve what it considers to be an effective level of physical protection. This approach has evolved more from the limitations to installation of security equipment in the buildings, than from a planned approach to security. Security for each specific collection depends, to a great extent, on the desires of the collection manager, previous consultant reports, and the experience of the Physical Security Section personnel. The Physical Security Section Manager works with individual collections managers to determine the level of protection to be afforded to the reading rooms and bookstacks assigned to that collection.

In the information technology area, the Library General Counsel directed Information Technology Services in 1989 to develop a computer security policy for the Library. The written policy is in compliance with the Computer Security Act of 1987 that requires "all Federal agencies to identify each computer system that contains sensitive information and prepare plans for the security and privacy of such systems." Library of Congress Regulation 1620 was drafted in 1989 to provide a framework for compliance with the Computer Security Act of 1987. Because of required input and coordination from each service unit and division within the Library, the LCR 1620 policy was not finalized until 1995.

In addition, the Library has not developed a contingency plan for its computer operations. LCR 1620 stipulates that the "Library shall require appropriate contingency and continuity of operations plans be developed, maintained, and coordinated." While the ITS organization has an understanding of emergency operating procedures, the Library has no written and approved contingency plan documenting procedures to develop, test, and maintain emergency response, backup operations, and disaster recovery. In lieu of a formal disaster recovery plan, the Library relies on other legislative sites that can be used as an off-site information resource to rebuild its systems. The Landover, Maryland, Library facility serves as the off-site backup location for critical Library processes. This back up arrangement does not satisfy all of the areas that should be included in a contingency plan such as how to deal with a fires in computer rooms or how to respond to hackers who attempt to enter into Library computer systems.

5. Implementation of security at the Library is conducted in an inconsistent and sometime undocumented manner.

The Library does not uniformly implement the physical, computer and collections security procedures it has developed. In some areas there are no procedures

at all. This further degrades the security posture of the Library. The following implementation issues at the Library were noted.

- a. **No complete set of procedures guides the actions of the Library police, and policies are not uniformly followed.**

The Library police operating guidelines are a collection of procedures that expand in reaction to Library needs. The Library uses LCR 1810-2, "Access to Library Buildings and Collections," to define entry/exit requirements for Library space. LCR 414-1, "Marking of Library Materials," is used to define exit inspection criteria. Library police jurisdiction is defined to be within the Library buildings and outside to the curb. The Office of the Librarian determines which entry/exit points will be opened and closed, and when. The Library police have an unwritten procedure to patrol only public space and the stacks. Written procedures on detaining or arresting individuals suspected of breaking Library rules are contained in Section AR of the Library of Congress Police Policy Manual.

Exit/entry inspections were observed to be inconsistent with published guidelines. In the Library Police Manual, Part 1, "Responsibilities and Procedures for Police Officers," it states that the Police should "ask each person before they go through the KNOGO if he/she has any Library materials. The answer to this question may be used as evidence in court..." We did not observe that this requirement was always followed.

The Physical Security Section also issues picture badges to employees that are printed on a magnetic stripe access control card. The Library has mandated that all employees wear badges. The magnetic stripe card is designed to provide access to the closed stacks. Not all employees are wearing the badges, thus making identification of authorized personnel difficult for the Police and the staff.

- b. **Electronic security systems at the Library have varying levels of effectiveness.**

The Library has an assortment of manual and electronically activated locks and door hardware that are fitted into existing doors. The absence of documented procedures for the implementation of locking hardware and exit/entry barriers has resulted in a "mixed bag" of physical security equipment. This "mixed bag" has created maintenance problems and difficulty interfacing with the electronic security system.

A card access system controls access to the closed stacks and restricted areas. The design of the system is effective, but operational problems with door exits and alarms have been reported. For example, false alarms occur when someone exits using the doorknob rather than the push bar. The push bar shunts the alarm of the door. If the doorknob is used, an alarm goes off which is noted in the communication center. Since these types of false alarms are continually reported, the police have stopped

responding. The KNOGO system, an exit-based detection system, appears to be an effective deterrent, but not all Library material has the appropriate sensors or tags.

Intrusion detection systems monitor the closed stacks and other restricted areas. The AOC stated that the intrusion detection systems, the same as those at the Library, perform well in the other Capitol Hill buildings. The Electronic Security Section Managers consider the AOC-provided intrusion detection systems to be unreliable, and as a result, have installed extra sensors and alarm monitoring equipment in several areas. Some doors in the stacks have as many as four door contacts. This difference of opinion has been a continuing source of conflict and has led to redundant expenditures for sensors.

Closed Circuit Television (CCTV) cameras and video tape recorders are used in reading rooms, stack areas, and for general surveillance and deterrence. Common area and entry/exit point surveillance is monitored in the command centers. Cameras in the Rare Book reading rooms are also constantly monitored. Video surveillance systems in the other reading rooms are effective where installed, because of the physical coverage of the cameras. The overall effectiveness of those cameras is diminished, however, by the fact that they are not regularly monitored. Although the Library has plans to install additional CCTV systems, finding suitable mounting and conduit locations is a problem.

c. The Library has implemented common commercial practices to secure its automated information resources.

Although we did not test specific computer security processes during our assessment, we did review available documentation and interview Library personnel. Because formal procedures and practices do not exist, the Library is using commonly acceptable commercial practices to protect their information resources. Such practices include:

- Inspection of log data for obvious trouble signs
- Inspection of legitimate files available for transfer
- Investigation of all suspicious e-mail received
- Close review of the Computer Emergency Response Team (CERT) advisory to keep abreast of attacks attempted on other systems and the recommended safeguard protections.

Access to UNIX systems at the Library is closely controlled by limited distribution of system administration privileges within the ITS division. A medium-security configuration on IBM mainframes at the Library provides automated security features to determine the secure state of the system. Commercial off-the-shelf security

products are installed on the Library servers. Access to files is authorized by data owners and is controlled by the system administrator.

3.2.5 Recommendations

The following recommendations are considered critical to the implementation of an effective, successful security program at the Library.

1. **The Library needs to organize and manage its security functions in a less fragmented manner.**
 - The Library needs to identify a single Library Security Officer (LSO) responsible for all security functions in the Library, including physical, information and personnel security. The LSO should be responsible for providing the leadership and focus for the security organization and for developing and implementing the Library's overall security policy.
 - The Library should investigate transitioning full responsibility for the design, component selection, installation, integration, and operation of all permanent and temporary electronic security components and systems to the AoC. This would eliminate confusion and reduce the need for the Library to maintain expertise in electronic security systems.
 - The Library needs to provide management with more detailed information on security program costs and performance. This will ensure that adequate and complete information is available to determine how security dollars should be spent and whether the money is being spent wisely.
 - The Library should establish a robust training program for its personnel, to include general security awareness and computer security. Since the staff must help enforce security policies, it needs to understand the value of security in protecting the collections for future generations.
2. **The Library needs to change its security program to conform with generally accepted security practices.**
 - The Library needs to establish a comprehensive and overarching security policy based on a single set of requirements. Accordingly, the Librarian should publish a statement of the Library's objectives for the protection of personnel, property, and information. This statement should take the form of a top-level Library Regulation from which all other regulations can be derived.
 - The Library needs to implement a comprehensive risk management process, starting with a Library-wide risk assessment, to support ongoing decision

making and allocation of protective resources. The understanding of security-related threats and vulnerabilities is an essential component of an effective security program. The Library should identify and understand real and potential threats, and articulate current weaknesses and vulnerabilities. Also, it needs to formulate and prioritize its risks by potential severity. This information should be used to make budget prioritization decisions on security initiatives.

- After Library security requirements and risks are identified and prioritized, a comprehensive security plan that incorporates elements from the 1992 Plan for Enhancing Collections Security should be developed to direct the implementation of security across all Library operating elements and to drive the optimal allocation of personnel and financial resources to fulfill Library security goals and objectives.
- The Library needs to implement the security policies and procedures it develops in a rigorous manner.

3.3 TECHNOLOGY USAGE

Although information is still delivered in hardcopy form, i.e., newspapers, magazines, and books, computer technology is rapidly liberating information from the limitations of print. The Internet has become the agent of change that is accelerating global, decentralized access to information. In the next decade, the pervasive presence of computers and advances in telecommunications will profoundly affect the nature of the Library and its mission. People will no longer be precluded from accessing information based on geography or time. The digital revolution will enable people to access and create the specific information they need. Millions of bits of information will be stored in computers, rather than just on Library shelves. Hardcopy physical material, normally in a single media, is giving way to a multimedia, hyperlinked "logical" world where physical handling becomes at best a second order issue. Multimedia processing has moved us from a singular thinking world to a world where information can now be viewed and heard, both at the same time. Technology is the critical element that is revolutionizing the way people work, learn, and live.

The Library is uniquely positioned to take a pivotal role in this information revolution. Bold leadership and innovations in cataloging, storage, and presentation techniques will be required to meet the needs of future information consumers. The Library has demonstrated such leadership in the past. For example, in the 1960-70 timeframe, the Library developed a capability that enabled libraries around the world to develop automated cataloging systems for efficient information access. Such creativity and innovation will become even more important in the digital age.

3.3.1 Methodology

The purpose of this portion of the study was to determine whether the Library is properly positioned in terms of strategy, leadership, organization, business processes, data, and technology, to serve Congress and the Nation effectively in this new information revolution. We also assessed the level of strategic planning required to enable the Library to take full advantage of today's technology. During the course of this study, we established technology benchmarks based on site visits to large research institutions, public libraries, commercial information providers, and technology development organizations.

Our assessment centered around the following specific objectives:

- Address whether the information technology (IT) strategy is linked to the overall Library mission
- Evaluate whether integrated IT planning, budgeting, and performance measurement processes exist

- Define the degree to which business unit heads in the Library interact with Information Technology Services (ITS) to make joint decisions on IT spending and direction
- Evaluate existing Library information systems and their effectiveness in supporting the current mission and operations
- Evaluate the current Library technology organization and its effectiveness in delivering technology enabling solutions
- Define relevant enabling technologies and assess their potential impact on Library operations
- Define "best practices" that are employed by similar organizations in Government, academia, and industry; and assess how these practices could be used to enhance the Library's operations.

Using GAO's Strategic Information Management Self-Assessment Toolkit, we first examined the Library's information needs from the perspective of current operational needs and the potential for exploiting new technologies. As part of this assessment, we focused on acquiring a sound understanding of the factors affecting the Library's mission and goals. These factors included its organization, functions, and supporting processes. In addition, we defined and assessed enabling technologies and their potential for improving Library operations. Through a combination of interviews and site visits, we also examined best practices from similar Government, industry, and academic institutions. The list of site visits is provided in Exhibit 3-6.

EXHIBIT 3-6
Benchmark Site Visits

SITE	RATIONALE
Patent and Trademark Office (PTO)	To review lessons learned in the areas of facilities, security, and technology, including the digital capture of patents and trademarks and the dissemination of information.
National Archives and Records Administration (NARA)	To review its approach to record and document storage.
Smithsonian Institution	To review its large volume of physical material, data catalog, security, and material access controls.
New York Public Library	To review its methods and techniques for managing its vast holdings and the role that technology plays in day-to-day operations.
Chicago Public Library	To review its approach to using technology to meet the needs of the public.
Harvard University	To review its extensive archive holdings and its approach to an Integrated Library System (ILS).
Massachusetts Institute of Technology (MIT)	To review its innovation in on-line access, information storage and retrieval, and information sharing.
Indiana University	To review innovation in the area of digital information handling (sound and video) and support for the Internet. In addition, to discuss their views on copyright information processing.
Carnegie Mellon University	To review innovation in the area of digital information handling and its support for the Internet.
Purdue University	To review its innovation in on-line information access, its Thorplus Web site, and information sharing.
The University of California at Berkeley	To review its information technology infrastructure and the changes it has made to the School of Library Science.
The University of California at Los Angeles	To review its approach to an Integrated Library System (ILS).
On-line Computer Library Center (OCLC)	To review its leadership in information cataloging and data sharing.

3.3.2 Findings and Conclusions

The Library has not recognized the importance of information technology as an investment, nor does it have a strategic information management process linked to customer needs and mission objectives. Information technology planning, budgeting, and evaluation processes are not tied into the overall Library strategy. Finally, the Library has not built an organization-wide technology infrastructure to address all of its current and future needs. Staff technology skills, anchored in old mainframe-based (legacy) systems, will inhibit the Library's transition into a modern client-server environment. These findings are supported in the following sections.

A. A greater strategic focus on Information Resources Management (IRM) would position the Library to make better use of technology.

The Library does not view technology in a strategic context, nor has it focused on what information is needed to run the organization. This is evidenced by the fact that there is no single system-level architecture in place, complete with a performance measurement component, that can facilitate the organization's decision making process. Through interviews with Library staff, we found that IT prioritization decisions are not based on a clearly defined strategy and are not directly linked to the Library's mission objectives. This situation has inhibited the Library from moving technology forward to better support the user community.

The Library's leaders have not secured the full support and commitment of the entire organization and no sense of common ownership has been created at all management levels. The New York Public Library, on the other hand, is an example of an organization that views technology as integral to its mission. It started a strategic planning process in 1992 and now has an operational focus with buy-in at all levels of the organization. The New York Public Library would serve as an excellent model for the Library of Congress in this arena. The Massachusetts Institute of Technology (MIT) also has an excellent strategic plan that is used as a communications tool for the staff and to support staff requests, budget planning, and task prioritization.

Lack of a recognized need for a global vision and strategy has resulted in costly projects that never achieved their stated goals or had to be canceled prior to reaching their objectives. The Resystemization effort, which was initiated to modernize the existing cataloging environment, failed, in part, as a result of these missing components. Project leaders initially recognized the importance of the process but the commitment to seeing this project succeed was not present.

1. The ITS organization does not have a global view of the Library's information needs.

The current ITS organization views itself as an applications development and maintenance organization, largely reactive to the day-to-day operational needs of the Library. The Library does not view ITS in a strategic role as the manager of all the organization's information needs. It does not integrate all information requirements Library-wide and has no communication strategy for distributing technology decisions, soliciting recommendations, and documenting problems and solutions.

ITS supplies maintenance services for the legacy systems and the network infrastructure required to support current library operations. It continues to accept new tasks that monopolize the development staff, while neglecting capabilities that would better assist the overall organization. For example, the Library has focused on the THOMAS project, the initiation of the National Digital Library (NDL) project, and the creation of a digital video capture environment to record Congressional sessions, while

neglecting enhancements needed in other areas, such as cataloging. Even in new system development projects, tasks are structured as a "job jar" list. This is evident in the way that IT responsibilities are allocated and managed in the Library. Specifically:

- There is no clear delineation of responsibilities between ITS and the service units with respect to technology implementation.
- The shortage of resources, the perceived need to provide equitable support across the service areas, and constant shifts in priorities cause technical staff to be inefficiently "time-shared" across numerous projects.

Information required to make key technology decisions is not always available and, as a result, ITS decisions are made from incomplete data. It is almost impossible today to perform a cost benefit trade-off analysis on IT projects because the necessary information is not tracked and in a usable form.

As a result of not tracking pertinent information concerning project performance and expenditures, it is difficult to determine when tasks will be done or how much they will cost. The cost may not just be financial in nature but may include lost opportunities to provide better service to the organization.

In summary, Exhibit 3-7 compares the difference between the current ITS approach used by the Library and an IRM organizational approach that we derived from our site visits.

EXHIBIT 3-7 Contrasting ITS and IRM Approaches

Finding Areas	ITS Approach	IRM Approach
Planning focus Evidence: Tasks are undertaken in a "job jar" fashion. Staff is constantly reshuffled on a weekly basis to meet the current priority.	<ul style="list-style-type: none"> • Tactical in nature - the goal is to maximize near term benefit • Operationally driven • Reactive • Decisions based on competing initiatives 	<ul style="list-style-type: none"> • Strategic in nature - the goal is to maximize long-term as well as short-term objectives • Mission driven • Proactive • Decisions based on end-to-end, integrated capabilities
Organization orientation and leadership Evidence: Information is not the cornerstone of the organization. Detailed status reports and process metrics are not gathered, analyzed and used to make cost/benefit analysis decisions	<ul style="list-style-type: none"> • IT Director • Technology driven • Product provider • Support organization 	<ul style="list-style-type: none"> • CIO • Information solution enabled • Service provider • Integrated team
Information architecture Evidence: The current environment does not have an overarching infrastructure. It is difficult to move information easily across the environment without additional software development.	<ul style="list-style-type: none"> • Stovepipe approach based on current short-term needs 	<ul style="list-style-type: none"> • Integrated based on open long-term needs

2. The lack of a strategic, mission-driven perspective results in divergent systems and a duplication of effort.

The lack of a single IRM focus within the Library has resulted in the introduction of competing, often divergent, technology infrastructures. For example, CRS implemented its own electronic mail system, network operating system, and Window

management system because CRS believed that ITS could not meet its needs. The technology environment that CRS implemented is not totally compatible with the infrastructure in the rest of the Library. Moreover, CRS has had to provide its own staff to support the CRS network, and electronic mail environment. These resources cannot be shared with ITS because of the different skills required.

3. Without a formal strategic plan or an integrated IRM planning process, prioritization decisions are not always consistent with mission needs.

Because the ITS organization views itself in a tactical versus a strategic role, the Library does not have an IRM plan that focuses technology investments and resources on Library-wide core mission goals, business processes, and customer needs. As a result, there is no solid basis for allocating resources and making priority decisions with respect to IT products and services.

The Library's current IRM planning process is informal, reactive to short-term needs, and not rooted in a comprehensive IT vision. As a result, resource allocation and technology decisions are often based on perceived short-term requirements rather than on established mission priorities. Projects are often prioritized based on the availability of resources rather than on their benefit to the organization and its mission. The following specific examples illustrate this point. Although they demonstrate the flexibility and responsiveness of the ITS staff, their undertaking diverted scarce resources from other priorities.

- In December 1994, Congress directed the Library to provide a gateway for sharing legislative information on the Internet. The goal was to have this capability in place by the start of the new Congress on January 5, 1995. The Library responded by developing a capability called THOMAS. To satisfy this quick-turnaround task, three people were redirected from other key projects such as the Global Legal Information Network and the Bibliographic WorkStation (BWS).
- The Technology Assessment Group has not focused on assessing innovations which could streamline the Library's operations or enhance their product delivery capabilities. While some of their work has been lauded from outside the Library, it is not supporting any of the Library's stated internal strategic objectives.

IT priorities for the Library have been described and documented in the ITS Strategic Plan, last revised in September 1995. This plan exemplifies the planning process used by ITS in establishing tactical priorities for the Library. This process consists of the following steps:

- ITS customers and constituencies are identified.

- User needs are established and defined in one-on-one sessions with each customer. Priorities are reviewed in periodic meetings conducted between user and ITS representatives.
- ITS management reconciles conflicts that cross the Library and attempts to address at least one or more high priority item from each constituency group. Final decisions are made by ITS management based on resource availability rather than organizational priorities.

As evidenced by this process, major initiatives in the Library are usually first championed from within one of the user organizations, then supported at the Executive Committee level. Some projects, such as the National Digital Library (NDL), are initiated from the top down. Others, such as THOMAS, originate from a Congressional request. More often, projects result from a need advocated by either a technical or functional proponent in the Library. The Copyright Office Registration, Recordation, and Deposit System (CORDS), for example, did not take on significant importance until a new manager took over the Copyright Division and pushed the initiative.

Because initiatives are linked to the Library's mission only to the extent that the mission is reflected in the perceived needs of the individual proponent, the planning process does not address all the strategic planning elements that would better enable ITS to allocate resources, define technology expenditures, and establish priorities across the Library. These missing elements include the following:

- A vision for the future that includes IT as an enabler to the Library's mission (*Where do we want to be?*)
- An integrated IRM architecture (i.e., organization, business processes, and support systems) rooted in this vision (*What resources are needed to get there?*)
- Performance improvement objectives that are measurable and linked to the mission (*How do we know when we get there?*).

Many libraries and institutions we visited during our site surveys offer excellent examples of how strategic planning can effectively drive technology decisions. The Library of Congress would benefit from using some of the same IRM planning processes that have been implemented at the National Archives & Records Administration, the Patent & Trademark Office, Carnegie Mellon University, the Massachusetts Institute of Technology, and the Chicago Public Library.

B. The existing technology infrastructure is not integrated across the Library.

As the Library increases its use of technology, both to support internal operations and to interact with its external customers, the overall infrastructure becomes an

increasingly critical factor affecting the ability of the Library to accomplish its mission. This infrastructure consists of the architecture, systems, resources, and processes designed to support technology. Library systems are currently not integrated at a level appropriate to reduce interfaces between systems, lessen the need for maintenance resources, and minimize redundant data.

The Library currently faces a situation associated with its core information systems that is not uncommon among organizations that developed automated tools in the 1970's. At that time, systems were built to focus on specific, localized problems or processes. Library systems developed using this approach include the following:

- Multi-Use MARC System (MUMS) - A data repository system for bibliographic data
- Subject-Content-Oriented Retrieval for Processing Information On-line (SCORPIO) - A data repository system containing indexed information pertaining to material available in the Library
- Copyright Office Publication and Interactive Cataloging System (COPICS) - A data repository system containing copyright registration information
- Copyright Office IN-process System (COINS) - A data repository and tracking system for managing deposit accounts and requests for information on fee services associated with the copyright registration process.

These systems form the foundation for a majority of the automated information processing now associated with the Library's day-to-day operations. They were developed around non-integrated data structures that were state-of-the-art at that time. Newer Library systems are designed to improve access to these core systems and to address additional functional capabilities. Multiple interfaces have been developed among these systems (e.g., MUMS, SCORPIO, COPICS, COINS). The number, quality, and complexity of these interfaces complicates software changes since a change made to one system may affect several other systems. The Library's technical architecture has evolved around the need to support and enhance these legacy systems rather than in accordance with an overall data model representing the organization's integrated information needs.

Lack of a comprehensive, integrated information architecture has also caused systems to be acquired as independent entities. Automated solutions to provide new capabilities tend to be bounded by the requirements of a single organization, rather than implemented within the larger context of the Library's global requirements. An important example of this is the current issue surrounding the selection of an electronic mail package for the Library. The main purpose of an electronic mail selection is to provide an enterprise-wide capability that can serve the entire Library community. CRS has standardized its e-mail environment, but the remainder of the Library

continues to operate using numerous products. The Library has adapted the CRS solution but no plan for migration was available for review. As a result, inefficiencies in operation, staffing and communication exist.

Another shortcoming of this piecemeal approach to system selection has been a failure to recognize the benefit of an Integrated Library System (ILS), i.e., a system that would help the Library track orders, acquisition, cataloging, and circulation functions. A consultant's report prepared for the Acting Director, Public Service Collection, on Processing and Information in the Library, dated April 25, 1995, clearly demonstrated the feasibility and potential benefits of adapting a commercially available ILS environment. The Library has not yet capitalized on this report. Both Carnegie Mellon University and the Chicago Public Library depend upon ILS to facilitate Library management functions.

The Library has many system databases that will continually increase in volume. The NDL, for example, is expected to store 5 million digitized images by the year 2000. A key benefit of integrating systems within a comprehensive, targeted architecture is the ability to limit data redundancy, thus reducing costs associated with data storage capacity and the resources required to keep common elements synchronized. At the present time, however, there are a number of systems that perform similar activities. For example, MUMS and COPICS both perform functions needed to process catalog records but they contain some of the same data fields. The lack of an integrated plan for managing these data systems into the foreseeable future is a risk for the Library. Data redundancy that does not specifically improve performance or provide some other benefit in support of the Library's mission should be minimized in order to reduce resource costs.

Individuals within the Library, both system developers and end-users, recognize the need to integrate technical decisions across project initiatives. A current example of this is the needed integration among the NDL, CORDS, GLIN, and THOMAS projects, all of which plan to use the Internet as a means of data transmission. Integration efforts are driven by individual initiative, however, because the concept of technical integration across the Library has not been institutionalized. No formal process has been established to ensure that technical information is shared across projects.

C. Technology programs and projects are not managed as investments.

Because the Library does not have a comprehensive IRM vision or strategy, it does not view technology as an investment. Insufficient attention is paid to program and project costs, priorities, and performance. As a result, the Library cannot determine if its investments in technology are supporting its mission objectives.

1. The budget structure does not provide program or project level cost information.

Budget planning follows a bottom-up process within ITS. Every year the ITS staff gets budget inputs from the service units and prepares a draft submission. This exercise is usually accomplished by taking the previous year's approved expenditures and either increasing or decreasing each of the cost centers to achieve an internally generated funding objective. Budget estimates are based on current staffing levels and estimated capital expenditures, not on mission priorities as defined in an overall Library strategy. The budget is executed as a general pool of resources expended on short-term needs rather than on long term IRM objectives. As a result, it is difficult for the Library to justify spending priorities and to perform cost benefit analyses.

The budget structure itself does not provide adequate information on IRM expenditures for specific initiatives. When resources are diverted to a new priority, such as THOMAS, the true cost is unavailable because no information is kept to account for project level costs. As a result, it is difficult to accurately assess either individual initiative or total Library IT costs. Reasons for this lack of budget visibility include the following:

- The Library has 5 different appropriations: Library Salaries, Congressional Research Services, Copyright, Books for the Blind and Physically Handicapped, and Furniture and Furnishings. Technology expenditures are included in at least three of these appropriations.
- The cost center structure for the ITS budget does not provide the necessary visibility to track cost performance associated with specific high priority initiatives. Whereas the budget details are treated more specifically within ITS, the true cost of certain programs can only be estimated.
- Other Library organizations, such as CRS, plan and manage their component of the IT budget independently of ITS.

2. The Library has no formal performance measurement system.

Performance measurement is a critical element in the strategic IRM planning process because it determines whether the IRM strategy is addressing mission objectives effectively. The Library has a number of deficiencies in this area that need to be addressed, including:

- Specific, measurable performance objectives, tied to Library mission priorities, are not formally established, negotiated, and communicated within the organization.

- Programs or projects are not managed as investments. The program or project evaluation process is not directly linked to the planning and budgeting process. No formal process exists for monitoring major initiatives, programs, and funding priorities; and subjecting them to a comprehensive performance review process.
- Performance measures are established on a transaction basis tied to specific system platforms rather than linked to the mission as a measure of organizational performance.

Exhibit 3-8 summarizes our findings about the Library's ITS performance measurement process. It describes the sources and types of performance measures typically employed at each level of evaluation and how these evaluation methods compare to the Library's performance evaluation process.

EXHIBIT 3-8
Weaknesses in the Performance Measurement Process

Performance Entity	Types of Measures	Library Performance Measurement Process
Mission	<ul style="list-style-type: none"> • Customer Satisfaction • Mission goals and objectives measures 	<ul style="list-style-type: none"> • No formal IRM performance measurement process integrating planning budgeting and evaluation processes • Performance of key mission delivery processes not formally measured • IRM performance measures not formally defined, communicated and linked to mission performance
Organization	<ul style="list-style-type: none"> • Customer satisfaction • Strategic objective measures • Resource usage by objective 	<ul style="list-style-type: none"> • Measurable organizational performance objectives not defined and documented in the IT strategy • Performance measures not linked to budget evaluation • Resource expenditures and technology investments not measured against a defined IRM strategy and measurable performance objectives
Program	<ul style="list-style-type: none"> • Cost performance • Schedule performance • Technical performance 	<ul style="list-style-type: none"> • IRM programs and projects not treated as investments; program evaluation process not directly linked to planning and budgeting • Program and project work plans not consistently developed • Many high priority programs lack a formal review process to track and measure cost, schedule and technical performance
Individual	<ul style="list-style-type: none"> • Measurable personal business objectives • Development objectives • Accomplishments 	<ul style="list-style-type: none"> • Individual performance appraisals and personal development plans not formally tied to IRM objectives
IT System or Application	<ul style="list-style-type: none"> • User satisfaction • Reliability/Maintainability/Availability • Transaction-based statistics 	<ul style="list-style-type: none"> • System level performance is typically measured by transaction-based measures • System performance measures not closely linked to user satisfaction and responsiveness to mission needs

D. The Library needs to decide whether to build new systems in-house or to outsource future systems development.

The Library is currently at a crossroads and must determine whether it wants to continue to build new systems in-house or whether it would be more cost effective to acquire these capabilities elsewhere. Other government organizations have faced similar issues. For example, NARA has outsourced administration of its network environment and the Patent & Trademark Office has migrated away from doing custom software development to procuring and adapting commercial solutions. In any case, the Library will be faced with establishing more rigorous systems engineering processes and acquiring staff with new skills to ensure that automation requirements are met in an efficient and timely manner, and that they are consistent with organizational goals.

1. The Library is in a transition state with respect to the systems it is implementing.

The Library is currently in a transition state regarding the types of systems it is implementing to support its mission. It is moving from building the internal data repository capabilities represented by the core legacy systems, to systems that are designed more to automate processes. This means that the operations of the Library are increasingly coupled to the systems designed to support them. The Library can either accept system development as integral to its mission and establish a full-scale, high-quality system development capability; or it can acquire the systems it needs by other means, i.e., purchase commercial products or outsource.

The Library's need for sophisticated, technology-based solutions is expanding beyond its current capabilities. This trend is accentuated by the following:

- Expanding requirements for serving Congress and other Library users (resulting in systems such as THOMAS, GLIN, and NDL).
- The need to manage databases continually increasing in volume
- Changes in cataloging rules or strategy resulting in considerable data maintenance (e.g., the need for global updates to catalog records)
- Increased capability and technology innovation available in the marketplace

2. The Library's current legacy systems cannot support its future needs.

The Library has a core dependence on legacy systems (e.g., SCORPIO, MUMS, COINS, COPICS) that have been in operation for over 20 years. These systems are complex, increasingly difficult to maintain, and cannot evolve in line with future Library requirements. The software code for the legacy systems was developed by Library staff at a time when system resources (e.g., memory, system registers, disk

space, standardized operating system utilities) were scarce. This issue required software developers to structure code to conserve resources. As new requirements were identified, changes were implemented by fixing existing code and/or adding more code to the baselined version. Over two decades, these systems have necessarily become functionally rich and specifically tailored to the historical operating processes of the Library but they have also become extremely convoluted in design. As a result, the structure and complexity of these legacy systems are increasingly inflexible and difficult to adapt to changing requirements. They will eventually reach a point at which they can no longer evolve without major re-engineering efforts to restructure all or portions of the code. Additionally, if the Library moves in the direction of assuming an information broker role in the future, it must move to new interactive technologies that facilitate data sharing among geographically dispersed organizations. These legacy systems will not accommodate such changes.

3. The processes designed to support software development in the Library are not adequate for building high quality systems.

At some point in its history, the Library institutionalized a structured development methodology called the Work in Process System (WPS). This approach, which detailed the documents and phases required to develop Library systems, was used for implementing large-scale, stand-alone, batch-oriented systems. It is still used, in part, by the staff maintaining the mainframe systems. Based upon discussions with various Library IT maintenance staff, however, it is not applied uniformly across all software development projects.

As technology evolved, the WPS approach has become less applicable. The Library abandoned the WPS system engineering framework but did not replace it with system engineering practices more appropriate to new systems. As a result, no institutionalized system engineering framework currently exists. Each individual development team decides on its own approach, platform, and development environment. The team then monitors its own adherence to self-developed conventions. The only development standards that are being followed by multiple teams are those developed for systems on the Internet.

If the Library wants to continue to build information systems, it must address existing shortfalls in its System Development Life Cycle approach in the following areas:

- System planning
- Requirements definition
- Requirements tracking/validation
- Configuration management/control
- Development tools/environment
- Development methodologies

- Test approach/tools
- Data definition and repository
- Engineering process integration
- Project control.

The following sections detail our specific findings regarding processes in each of these system engineering disciplines:

- **System planning**—System development costs are not routinely estimated before development and only sometimes after a project has been completed. The hardware may be planned but the labor required is taken out of the development labor pool and is usually not viewed as a “cost” to the project. In the only discovered instance in which a project (SMS) had been assessed to determine cost, including labor, an issue still under discussion is the “loading” applied to labor rates (e.g., for benefits, facilities, auxiliary support functions, etc.). This information is not readily available to the Library staff. True costs and level of accomplishment for specific initiatives are also obscured by the fact that the budget is not structured and executed in a way that will easily produce such data.
- **Requirements definition**—The Library has implemented several useful techniques in this area focused on garnering strong user involvement. ITS points of contact with the service areas are primarily tasked with ensuring requirements are properly defined. Methods for capturing defined requirements are not consistent across the teams and sometimes rely heavily on mutual understanding between the staff involved. Although most projects reviewed did produce some type of written requirements statement, format, content and level of detail vary.
- **Requirements tracking and validation**—The most common method of tracking requirements at the Library is to record individual requirements in the form of tasks to be completed. This task list then becomes the Project Plan for the effort. We found no evidence of automated requirements tracking systems or other mechanisms to support this function, with the exception of the Work Tracking System used to track help desk problem reports. Discussions with the development staff indicate that requirements are not universally linked to system documentation.
- **Configuration Management (CM)**—CM is handled by each development team until the system is turned over for production. The mainframe systems are more tightly controlled. CM planning, processes, and tools are not required to be consistent between projects and we did not find evidence of a formal CM structure. Only one project indicated it used automated CM tools for tracking source code and system components. A common response we

received when requesting specific documentation was that it existed somewhere but the exact location was not immediately known.

- **Development tools**—The Library indicated that several products have been tried but none has been adopted for Library-wide use. Individual development teams select the tools and environment considered most appropriate for the system they are building, subject to management concurrence. ITS is in the process of trying to standardize on a set of data base products and development platforms to address the issue of support and maintenance for a heterogeneous architecture.
- **Development methodologies**—The Library indicated that it does not use a suite of standardized development methodologies other than the instances where the WPS approach is still followed. Use of a particular methodology is at the initiative of an individual team or staff member.
- **Test approach and tools**—The maintenance teams for the mainframe systems currently implement the most rigorous approach to testing; although “emergency” fixes do not always go through a full test scenario. Quality assurance staff are responsible for reviewing changes to production systems, performing some testing in accordance with developed test scripts, and moving versions of the code into production. Systems under development are tested in accordance with the test approach selected by the development team, which may or may not be formalized. In most cases, final acceptance testing is accomplished by turning the test configuration over to the user rather than using a structured approach governed by an Acceptance Test Plan.
- **Data definition and repository**—The ITS data administration staff has the responsibility for working with development teams and overseeing all data dictionary and data element definition activities. Entity-relationship models are used as the basis for more complex systems, but are developed on an individual project basis. Attempts to develop global definitions for data used by different segments within the organization have not been successful.
- **Engineering process integration**—No formal mechanism exists for translating requirements into support and resource needs across ITS and other segments of the Library. The focus of planning and process implementation is at the project level and varies between individual projects. Communication between projects is dependent upon individual team members and is not governed by any formal mechanism. It is facilitated to some degree by the “automation liaisons” but this mechanism is heavily dependent on personal relationships. The key formal mechanism for interaction on a technical level is the Technology Working Group, which

emphasizes workstation allocation and other budget issues. This role has not been enhanced to provide a means of developing integrated plans and solutions.

- **Project control**—Although reporting mechanisms exist, they are oriented toward budget management of the organization. They are not crafted to provide the level of information needed to monitor and guide development and project activities effectively. The “project control” function at the global level is missing or informal. This includes activities such as developing master schedules across all projects, resource balancing, and resource projection. At the individual project level, the use of project control techniques supported by automated tracking or management tools has not been institutionalized and initiatives are not tracked in sufficient detail to determine total project cost, projected resource needs, overallocated resources, etc.

In summary, we found that some accepted systems engineering practices have been implemented or are being developed throughout the Library. The degree to which this is occurring depends upon the specific project or development group. Although the lack of a structured system engineering framework is viewed by many as allowing flexibility, the potential impacts for the Library include:

- There is greater difficulty in accurately assessing the status of current systems
 - Individual teams must “pay the cost” to recreate needed components
 - Systems are developed with little consistency (e.g., design approaches, naming conventions, screens, documentation, development techniques, degree of modularity)
 - System integration is hampered and opportunities for multi-use code are reduced
 - The quality, complexity, and comprehensiveness of developed systems is dependent upon the skills and capabilities of a specific team.
4. **Continued in-house systems development will be difficult with the existing staff.**

The key resource for a high-quality system delivery capability is the staff. The Library has a pool of staff resources, many of whom have a long history with the organization. A number of issues, however, must be overcome if the Library chooses to continue in-house systems development. These issues include the following:

- ITS has staff members who are experts in certain applications (e.g., bibliographic records). The Library legacy systems are maintained by staff who are highly skilled in the intricacies of their particular segment of the system and, in some cases, were even involved in the original implementation efforts. For the most part, this staff is fairly small (maintenance staff typically averages 4-5 people, not always full-time) and these individuals do not cross into other areas or systems. This situation poses a high long-term risk for the Library because the legacy systems are complex, difficult to replace, lack accurate maintenance documentation, and require skills that are difficult to find in the marketplace. The Library Resystemization effort started in the late 1980's was designed to resolve this situation but it was never completed. In one anecdotal example, a new staff member was able to "come up to speed" on an existing legacy system to the point of producing viable work at a basic level after one year, including three months of working with a knowledgeable staff member.
 - Resources and skills of those responsible for implementing technology are in many instances rooted in the mainframe milieu. The Library does not yet have the critical mass of technical talent needed to continually expand and sustain current new initiatives such as NDL.
 - Staff that are core knowledge holders are reaching retirement age and have not always been back-filled with trained, younger staff.
 - The lengthy hiring process adversely affects the ability of ITS to acquire talent necessary to deliver state-of-the-art technology solutions.
5. **The skills and structure needed to outsource technical work are not fully available.**

The structure and skills required to manage outsourced technical work do not fully exist at the Library. The framework required to support contract efforts and to ensure that high-quality products are delivered must include many of the components of a structured system engineering organization that the Library currently lacks. These include:

- Proven, structured methods for capturing, managing and communicating system and project requirements
- Clear, measurable quality standards against which deliverables can be assessed
- Mechanisms to enforce project and technical integration across the organization and all contract efforts

- Efficient, clear and consistent project control and reporting mechanisms
- Performance metrics tied to the mission
- Concise development standards and guidelines
- Functionally and technically knowledgeable staff.

The Library has already contracted out several efforts with mixed results. For example, the Copyright Imaging System (CIS) was originally developed using proprietary hardware and software from a small vendor company. The proprietary nature of the platform made it difficult to integrate with other systems and restricted the Library's ability to upgrade the system without calling upon the original developer. CIS is in the process of being changed to resolve this issue. We also encountered several descriptions of small systems built under contract in the PC environment that were not adequately documented. When the individuals who built the systems were no longer available, the Library was unable to maintain the systems properly. In another instance, the Library has not specified the use of engineering standards for the contractor associated with CORDS and NDL (Corporation for National Research Initiatives (CNRI)). Infrastructure requirements have not been modeled, nor have the requirements for indefinitely sustaining the NDL been specified and budgeted.

3.3.3 Recommendations

There are a number of action items that the Library could take to improve its technology infrastructure and processes should it decide to continue in the systems development business. More importantly, however, the Library needs to view information technology as an integral component of its mission. This issue will become even more critical if the Library assumes a collaborative information/knowledge broker role as described in the Mission section. The Library's ability to "make knowledge available and useful to Congress and to the American people and to provide leadership in creating networks of institutions that enable the world's resources to be shared" will be predicated upon the successful implementation of emerging information technology. Specific recommendations include the following

- 1. The Library needs to place a greater strategic focus on Information Resources Management (IRM).**
 - The Library management must first adopt a strategic IRM approach by changing how it views, collects, and uses information in order to achieve its mission objectives. As recommended earlier in the Mission section of this report, the mission of the Library and the customers it supports must be clearly defined and articulated, and this definition must be supported by both Congress and the Library. This global approach should be reflected in a

strategic IRM plan that lays out the part technology will play in enabling mission goals.

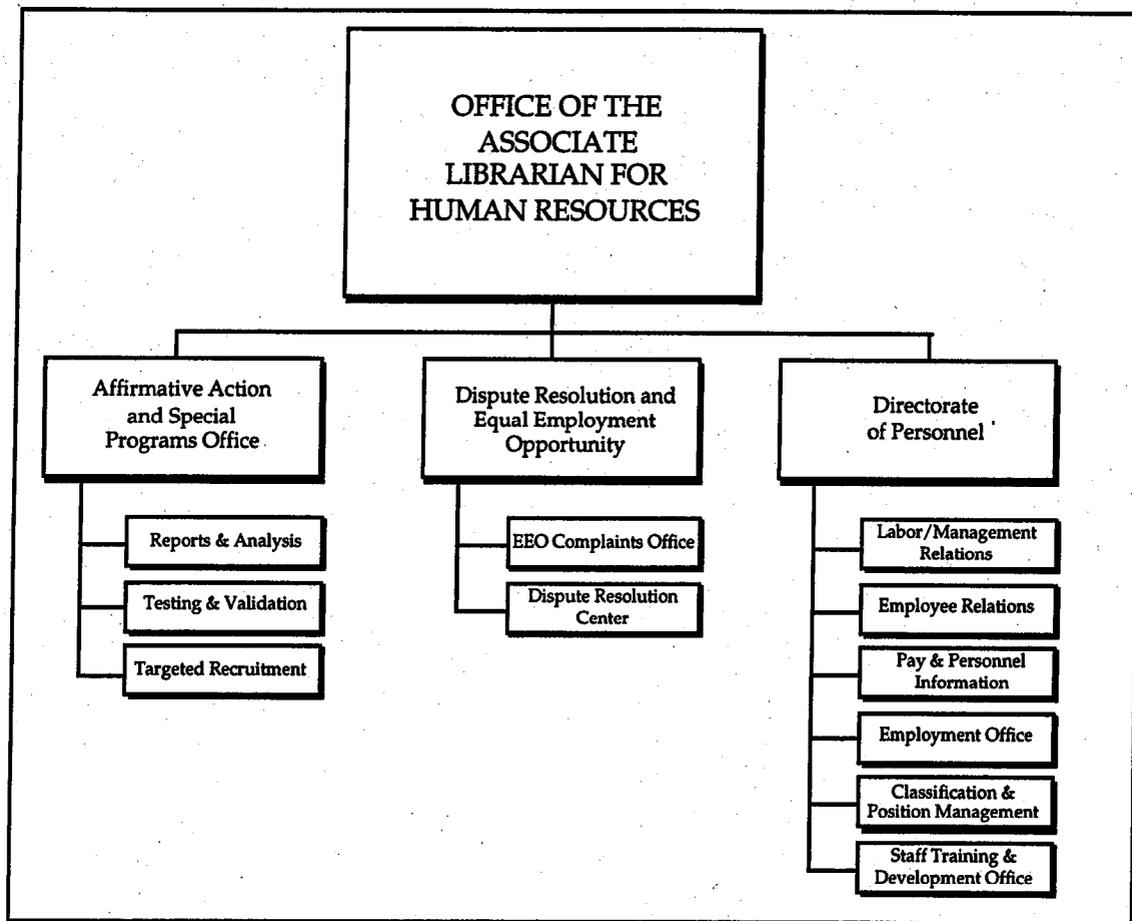
- The Library should expand the focus of the ITS Director to include the functions of a Chief Information Officer (CIO). The position must be enabled with the responsibility and authority to participate in the formation of the mission strategy so that technology will more fully support the Library's needs. The CIO should be responsible for providing the leadership and focus for the information organization, for managing executive expectations, and for developing and implementing the IT strategy. Both the Smithsonian Institution and the Patent & Trademark Office have assigned a CIO to manage information strategy and information assets.
2. **The Library needs to integrate its technology infrastructure across the organization.**
 - The Library should perform a structured configuration audit of all existing systems to establish an accurate configuration baseline. Once this is completed, it should develop a plan to transition to a target architecture to support its long-range goals. Finally, the Library should establish the mechanisms to control this architecture and to keep it documented.
 - The Library should develop detailed, workable transition plans for its legacy systems within the context of the target architecture.
 3. **The Library needs to manage its technology programs and projects as investments.**
 - The Library should establish a process to provide management with information on IRM program costs and performance. This will ensure that information is available to make wise technology investment decisions. The University of California at Berkeley is an example of an organization that has successfully taken a business approach to its library operations.
 4. **The Library should decide whether to build new systems in-house or to outsource future systems development.**
 - If the Library decides to continue developing its own systems, it needs to address shortfalls in its System Development Life Cycle processes because no institutionalized system engineering framework currently exists.
 - Additionally, it needs to assess current skills against needed skills and implement a process to acquire missing skills through training or hiring.

- If the Library decides to outsource systems development, it should develop the framework and skills needed to manage outsourced technical work.

4.0 HUMAN RESOURCES

The Human Resources Services Unit (HRS) at the Library of Congress supports each of the other service units within the Library on human resources functions, including classification, pay and leave, staffing, recruitment, selection, Equal Employment Opportunity (EEO)/dispute resolution, affirmative action, training, labor relations, awards and incentives, promotions, and policy development. The Associate Librarian for Human Resources reports directly to the Associate Librarian for Support Services and has 97 permanent employees in the unit. HRS is organized functionally, with managers and team leaders directly responsible for each functional area. The organization structure of HRS is shown in Exhibit 4-1.

EXHIBIT 4-1
HRS Organization Chart



Four of the service units of the Library outside of HRS have some staff dedicated to human resources functions within their units as indicated in Exhibit 4-2 below. These staff are the direct liaison to HRS.

EXHIBIT 4-2
Staff Dedicated to the HR Function Within the Service Units

Service Unit	Number of Staff Dedicated to HR Function
Library Services	5
Office of the Librarian	1
Law Library	1
Congressional Research Service	5
Copyright	2

For the past 20 years, issues have been raised internally and externally about the Library's human resources services, most notably by the Cook Class Action Suit filed in February 1982. A detailed description of this case is provided in the Competitive Selection Process Case Study in Volume 2 of this report.

Beginning in the 1980s, several Library studies focused, at least in part, on the improvement of human resources services at the Library, including the following:

- A study by Arthur Young & Company in 1988 offered guidance and recommendations for a performance appraisal model for senior management.
- In 1988, the Management and Planning Committee of the Library addressed and made recommendations for many human resources issues, including equal employment opportunity and affirmative action, consultative management, labor-management cooperation, staff development, performance evaluation, staff recognition, incentive awards, adverse actions, and training.
- A study by Morrison Associates in 1992 examined the Library's overall management framework with emphasis on the personnel processes that were determined to be discriminatory in the Cook case.
- In December 1992, an evaluation by Edmund Cooke, Jr., an attorney with Epstein Becker & Green, P.C., of the Library's personnel processes against the requirements of the Cook court ruling.

In addition to the internal recognition that certain human resources problems need attention, there has also been wide publicity about problems at the Library. Recently, entities outside the Library, including Congress, the Federal Labor Relations

Authority (FLRA), the press, and the courts, have contributed to this publicity in response to employee complaints.

Methodology

The focus of Booz-Allen's study was to examine the human resources function at the Library for:

- Impact of the Cook case on human resources and personnel management
- Effectiveness of the existing training program
- Effectiveness of the labor-management relations program
- Relationship between the Library's personnel policies against good management principles
- Extent to which personnel practices, including adverse actions, selection and performance management, are in compliance with EEOC's *Uniform Guidelines for Selection Procedures*.

In conducting the study, Booz-Allen used several methodological tools to gather data, including:

- Focus groups
- Structured interviews
- Process reviews
- Document reviews to include policies, contracts, and statutes.

During the course of the study of the human resources function of the Library, Booz-Allen completed:

- Twenty-six focus groups with union members¹, union officials², Library managers, Library employees, and Human Resources staff in order to obtain employee attitudes and process information about the human resources services provided at the Library

¹ Booz-Allen planned several focus group meetings with union officials and union members from each union. CREA accepted our invitation to participate in both the union official and union members meetings. However, AFSCME Local 2910 only participated in the union officials meeting.

² Union officials from CREA and AFSCME Local 2910 participated in a focus group. However, AFSCME Local 2477 declined participation in the union officials focus group.

- Twenty-five formal interviews with Library senior managers, union officials, service unit managers, other agencies, Office of Personnel Management (OPM) officials, FLRA, and Library counsel in order to investigate attitudes toward HR services, pinpoint key areas for in-depth study, request relevant documentation, establish areas of concern to managers, and establish contacts for ongoing data requirements
- Analysis of data collected on topics such as vacancies, tenure, turnover, attrition rates, training course evaluations and attendance, labor relations statistics, adverse actions, fitness for duty examinations, grievances, and disputes.

Our findings and recommendations are organized by topic area into the following five sections:

- 4.1 Labor Relations
- 4.2 Competitive Selection Process
- 4.3 Personnel Management
- 4.4 Human Resources Services Deployment
- 4.5 Training.

Booz-Allen is also conducting an employee satisfaction survey of all Library employees. The results of the survey will be reported in a separate document.

4.1 LABOR RELATIONS

The labor relations organization at the Library is composed of a Chief of Labor Relations, four labor relations specialists, and one secretary. The Chief of Labor Relations is an attorney specializing in labor relations and was previously a labor attorney for the Air Force. The labor relations specialists have diverse backgrounds — one was a former union president and another was in academia. The other two labor relations specialists have 15 years of labor relations experience. The functions of the Labor Relations Office are to 1) bargain for the Library, 2) investigate and issue decisions on grievances, 3) represent the Library in litigation, arbitration, and unfair labor practice litigation, and 4) advise on all issues related to labor relations.

Three unions represent workers at the Library: American Federation of State, County and Municipal Employees (AFSCME) Local 2910, AFSCME Local 2477, and Congressional Research Employees Association (CREA). Exhibit 4-3 shows the number of employees represented by the unions and the number and percentage of employees paying dues.

EXHIBIT 4-3
Analysis of Bargaining Unit Employees as of November 22, 1995

Labor Organization	Occupational Composition of Employees	Number of Employees Represented	Number of Dues Paying Members	Percentage Dues Paying Employees
AFSCME Local 2910	Professional employees at Grades 9 through 15 (e.g., librarians, nurses, and computer programmers)	1433	326	23%
AFSCME Local 2477	Nonprofessional employees including the police force	1454	293	20%
CREA	Professional and nonprofessional library employees of CRS	587	354	60%

Each union has its own contract, which is standard in nature. However, differences exist among the three contracts. For example, AFSCME Local 2910 has negotiated fairly extensive participation rights in many aspects of the Library's employment policies. AFSCME Local 2910 has the right to have a member on all Library committees whose principal purpose is to consider personnel policies. The CREA collective bargaining agreement appears to have a less legalistic relationship between the union and the Library, although it is similar to those of AFSCME Local

2910 and 2477 in the procedural protection for promotions, evaluations, and the like. Despite these differences, the contracts are similar in many other areas.

Historically, the labor relations program has been a source of concern at the Library, with former studies, congressional hearings, and publicity criticizing the labor-management relations. The Management and Planning Committee (MAP) report issued in 1988 initially outlined the problems that exist within the labor-management program. The report referred to the absence of effective communication and training, and the excessive reliance on rules and regulations, as well as a lack of flexibility and cooperation. During initial discussions in late 1995, Library officials continued to voice these concerns.

In response to the concerns outlined above, Booz-Allen conducted a review of the labor relations function at the Library. The objectives of our study were to:

- Characterize the relationship between labor and management and quantify the extent of the labor-relations problem
- Determine and assess the length of time involved in bargaining and negotiation
- Evaluate the impact of the Federal Service Labor Management Relations Statute on bargaining and negotiation processes
- Determine past and ongoing efforts to improve the labor-management relationship at the Library
- Determine the typical process for resolving labor disputes
- Determine whether employees are adequately trained regarding the Library's labor-management relations program
- Identify opportunities to improve the Library's labor-management relations.

Our findings in relation to these objectives are described below.

4.1.1 Labor Relations Findings

The Library's labor-management problems relate to lack of communication, collective bargaining, general lack of training in the labor-relations program, and general frustration with the labor-management relationship. Both labor and management focus group participants also expressed frustration with the decision-making process, problems with communication, and lack of trust on both sides.

- 1. Temporary absence of a labor relations authority figure closed unions' line of communication and resulted in an increased number of grievances.**

A dramatic increase occurred in the number of grievances filed against the Library between FY 1992 (12 grievances) and FY 1993 (89 grievances). During this time period, the Associate Librarian for Management Services resigned. A major function of this position was for the incumbent to meet with representatives from the three unions to address informal union complaints, permitting settlement before complaints reached the formal grievance process. After the departure of the Associate Librarian, the unions no longer had a channel through which to settle complaints informally. The vacancy of the position further deteriorated communication problems at the Library.

The position of the Chief of Labor Relations was vacant from October 1993 to April 1995. Interviews with the FLRA indicated that the number of cases filed with that organization by the Library's three unions during this 18-month period increased from 12 to over 70. The FLRA labor attorneys attribute this increase to the vacancy in the labor relations position. As of February 1996, the number of current FLRA cases filed by the unions has decreased from 70 to 5, and the FLRA views the arrival of the Chief of Labor Relations as a positive factor.

A review of the labor-relations programs of three other Federal agencies, and interviews with labor relations experts as well as with the FLRA, indicate that the Library is not unique in the types of grievances filed. Exhibit 4-4 shows the number of grievances filed by the three Library unions from FY 1991 to FY 1995. Exhibit 4-5 shows the types of grievances that have been filed over the past 5 years. AFSCME Local 2477 has been more active than the other two unions in filing grievances. AFSCME Local 2910 and CREA do not have unusually high grievance rates. Based on our review of the data, AFSCME Local 2477's concerns are centered over basic employee rights (e.g., harassment of an employee, supervisors allowing religious and racial jokes, employees being required to visibly display their identification badges).

EXHIBIT 4-4
Grievances From FY91 to FY95 Library of Congress

FY-Year	AFSCME 2477	AFSCME 2910	CREA	Agency³	Joint Grievances⁴	Total
1991	11	10	5	3		29
1992	8	2	1	1		12
1993	42	34	11		2	89
1994	51	15	6	1	6	79
1995	45	14	7	3		69
5-Year Total	157	75	30	8	8	278

2. Management and unions have different perceptions concerning consultative management.

A Consultative Management (CM) Pilot, proposed in the Management and Planning Committee Report, was designed to provide Library staff with an opportunity to provide input into work-related issues. However, the pilot has not worked because the Library has not clearly defined its purpose and intent. This lack of clarity results in further breakdown of communication, as indicated by union officials and management.

For example, line managers stated that the intent of CM is to keep everyone informed rather than to reach consensus. The union officials indicated that while CM works in some areas, it is sometimes seen as management's attempt to get around the contract.⁵ Union officials from CREA and Local 2910 indicate that CM is not used on issues that management views as important. While the intent of CM is to get unions involved early in the decision-making process, this is not typically done. The CM approach cannot be successful unless the Library clearly defines the intent and purpose of the CM program.

³ Agency refers to Library employees who are not represented by a union.

⁴ Joint grievances refers to two or more unions filing grievances together.

⁵ CREA and AFSCME Local 2910 Union Officials Focus Group Summary, February 1996.

EXHIBIT 4-5
Types of Grievances Unions
Have Filed From FY 1991 to FY 1995

General Articles in the Library Unions' Contracts	CREA	AFSCME 2910	AFSCME 2477
Accountability	0	0	2
Arbitration	0	4	2
Bargaining boundaries	0	0	1
Continuous or frequent posting of positions that have numerous incumbents and frequent turnover	1	0	0
Details	0	0	6
Employee Assistance Program	0	1	2
Employee relocations	0	0	1
Employee rights	0	5	25
Equal employment opportunity	5	0	2
Expedited bargaining	0	0	2
Food services	0	3	0
Health and Safety	0	1	5
Hours of duty	0	0	0
Leave	2	0	8
Library-union cooperation	1	1	4
Management rights	0	0	0
Merit employment	6	13	9
Negotiated grievance procedure	1	1	1
Overtime	0	0	5
Parking	0	1	0
Performance evaluations	0	11	7
Personnel files	1	1	5
Position classification	3	0	0
Promotion review for positions in the promotion ladder	1	0	4
Reassignments	0	3	3
Reduction in force	0	5	2
Reorganization	0	7	2
Training and career development	0	0	1
Union representation functions	0	1	0
Union rights	4	10	17
Use of official facilities and services	0	1	0
Within-grade determinations, quality increases, and incentive awards	1	0	0
Working conditions	0	0	3
Subtotal	26	58	122
Miscellaneous	4	6	35
Total	30	75	157

3. Managers and other employees indicate lack of training in labor relations.

Data obtained from focus groups with Library managers revealed that the managers perceive managerial training in labor relations to be fragmented and poorly sequenced. In addition, there is no updated supervisory manual for issues pertinent to management's relationship with the unions. Managers indicate they are unaware of union employees' rights. As a result, managers may inadvertently violate an employee's rights causing the employee to file a grievance. Both management and union members indicate that they lack training on bargaining and negotiation skills. Lack of training for managers results in confusion over determining the negotiability of bargaining issues. Lack of training for the unions leads to difficulty in selecting members who are knowledgeable about the issues at hand as well as knowledgeable about the bargaining process. The consequence of the lack of training for both managers and labor is delay in the bargaining and negotiation process.

4. The Federal Service Labor-Management Statute limits the unions' ability to negotiate critical areas of collective bargaining causing unions and management to have different bargaining emphases.

The Federal Service Labor-Management Relations Statute prescribes labor-management relations rights and obligations of the Library and its three unions. The Statute permits management to do the following without bargaining over substantive issues in these areas:

- Determine organizational aspects such as number of employees
- "...Hire, assign, direct, layoff, and retain employees in the agency or to suspend, remove, reduce in grade or pay, or take other disciplinary action"
- Assign work and determine whether to contract work out
- Select appointees for vacant positions.

In the Federal sector, bargaining does not generally cover critical areas pertaining to wages, benefits, or other significant management decisions. With respect to these critical areas, Federal unions can negotiate the "procedures" that will be followed regarding the above-listed critical areas. In addition, Federal employees are prohibited from striking as a means of supporting their contract demands. Rather, the Statute establishes the Federal Service Impasses Panel (FSIP), which functions to help Federal unions and agencies resolve impasses.

Because the Federal Service Labor-Management Relations Statute provides only for impact bargaining where management exercises a retained right, much bargaining focuses on procedural issues. Although the Library unions are bargaining within their statutory rights, they emphasize bargaining on procedural issues that management

considers "minor." Examples of issues that can be considered minor include bargaining over office equipment and the size of an employee's cubicle. In contrast, management bargains over issues that unions do not consider in their best interest (e.g., bargaining over employees wearing identification badges).

Thus, unions and management hold different perceptions of what bargaining issues are considered important. This disagreement over the importance of bargaining issues leads to delays in the bargaining process and to poor relations between unions and management.

5. Management and union officials share similar views on reasons for delays in the bargaining process but hold each other accountable for delays.

Booz-Allen conducted separate focus groups with library managers and union officials knowledgeable of contract negotiation.⁶ They were invited to discuss their perceptions of the bargaining and negotiation process including reasons for delays in the process. From the focus group data, it appears that management and unions share similar perceptions of reasons for delays in the bargaining process. One reason is the length of time to set groundrules. Management and unions both agreed that setting the groundrules can be a lengthy process. The process should last only a week but usually lasts many months.⁷ A reason for delay is the difficulty in coordinating schedules of individuals involved in the bargaining team.

Another reason for delays in the bargaining process is due to the time intervals between bargaining meetings. Because bargaining team members have difficulty in coordinating their schedules for bargaining meetings, union and management teams may meet only a few hours each month. The time interval between meetings may last as long as a month. As a result, the bargaining process digresses and may last for months. The consequence of the delays is stagnation in the bargaining process, leading to postponement in resolving bargaining issues. Management and union focus group participants indicated that effective contract bargaining requires a continuous flow of ideas and discussions until a decision is reached.

Managers and union officials have different explanations for the scheduling difficulty. Managers said that union representatives claim they were not given enough advance notice for bargaining even though managers said that they do give unions

⁶ AFSCME 2477 union officials declined to participate in the focus group.

⁷ AFSCME Local 2910 and management are presently conducting master bargaining negotiations. Managers reported that the groundrules phase of the bargaining process with AFSCME Local 2910 lasted almost a year before actual bargaining began (June 1993 to February 1994). Actual bargaining commenced on June 1994. A major reason cited for the delay was the lengthy time intervals (as long as one month) between meetings. Currently, management and AFSCME Local 2910 have been in contract bargaining for 2 years and are at an impasse.

sufficient notice. Union officials, however, believe that bargaining is not a top priority for managers. According to union officials, managers do not abide by the time frames dictated in the contract or agreed upon in the groundrules in master contract bargaining. In addition, union officials believe that managers will purposely delay scheduling bargaining meetings and are not willing to meet more than a few hours a month for bargaining purposes. Union officials also reported that management often approaches the bargaining table without having developed a suitable management plan. As a result, management does not have a clear focus of what it wants to accomplish during contract bargaining.

Managers also attribute delays in the bargaining process to the unions. Specifically, managers reported that unions have little incentive to complete negotiations quickly. Therefore, according to managers, it is to the union's advantage to continue bargaining until it achieves all its goals. Management also reported that unions do not prioritize issues brought to the bargaining table. As a result, the bargaining teams waste time negotiating over issues management considers trivial.

However, management admits to holding some responsibility for delays in the process. Managers report difficulty determining what is negotiable and what is not because they find the Federal Service Labor-Management Relations Statute confusing. Further time delays also occur because managers must research issues to determine their negotiability. Managers indicate that the new Chief of Labor Relations has helped greatly in this matter by providing clarification and guidance.

In sum, management and union officials do have similar viewpoints regarding the reasons behind delays in the bargaining negotiation process, but they blame each other for causing the delays. Although time frames are either dictated by the union contracts or agreed upon by both union and management, the time frames are not strictly enforced which perpetuates the delays.

4.1.2 Labor Relations Recommendations

Labor-management relations can span a spectrum from constant conflict to collaboration; however, most labor-management relationships fall between the two extremes. Often the history of an organization can cause labor and management to institutionalize their disagreements, but development of an effective labor-management relationship can reduce these problems. From our findings, we determined that the general major themes include a lack of communication, a lack of understanding of the bargaining and negotiations process, and a lack of training on the labor relations program. These deficiencies result in a breakdown in communication between labor and management and a lack of trust between the two sides. In order to address the concerns of both labor and management, we recommend the following.

1. Develop systematic ways to increase communication between labor and management.

To begin to improve and foster effective labor-management relations, we recommend that the Library utilize external facilitators to lead labor management sessions, encourage communication, and effectively manage conflict. FLRA indicated that facilitated labor-management sessions are commonly used as a first step to eliminate small issues that can weigh down an organization and to identify the major issues impacting labor relations. Federal collective bargaining is process-oriented by nature and facilitated sessions enable labor and management to see past the process and set ground rules for communication. FLRA attorneys concur that while apparent conflicts arise over priorities, both management and the unions share a common belief in the Library as a valuable institution. By building on this shared belief along with the efforts of the Chief of Labor Relations, progress can be made concerning the lack of communication at the Library. These facilitated sessions would enable labor and management to put aside trivial differences and get to the essence of the issues.

2. Identify a Library unit to pilot simplified bargaining terms and thereby improve relations.

As a means for creating a breakthrough in more effective labor-management relations, the Library should select a relatively small and severable unit within the larger bargaining unit, especially if that unit has a history of an unfavorable labor-management relationship (which might get the union interested in participating). The Library and the union could then negotiate a much simplified set of terms with stricter adherence to time frames. These guidelines would be applicable to this group only. The format would emphasize discussions, not paper. The pilot would have a definite duration of less than an entire 3-year contract so that it could be properly reviewed, modified, and extended if successful. Training would be included for all employees, supervisors, and managers covered under the pilot. Specific criteria would be identified to show demonstrable improvement (e.g., fewer grievances). If the pilot succeeds, it would demonstrate to other parts of the Library the benefit of working differently. This kind of program has led to improvements in other organizations but only when both sides recognized that their relationship was defective.

3. Revitalize the labor relations training program geared toward management.

A focus of the training program should be to increase managers' awareness of individual union members' rights as well as the rights and the demands of the unions. The benefit of managers' greater awareness of union issues is an increased level of trust and open communication between management and union. In addition, training for managers and union members focused on the contract negotiation process may accelerate the negotiation process. Training for both managers and union members can address the inadequacies uncovered in our study and potentially decrease the length of time spent in negotiations.

4.2 COMPETITIVE SELECTION PROCESS

Requirements of the settlement of the Cook Class Action Suit, described in the Competitive Selection Process Case Study (see Volume 2), include:

- Changes in employment policies at the Library of Congress, including a revision to the competitive selection process
- Promotions (40) and reassignments (up to 10) for a number of the class members
- Monetary relief to the class totaling \$8.5 million, exclusive of attorney fees
- EEO, workforce diversity, and unlawful stereotyping training for Library of Congress supervisors
- The elimination of any discriminatory non job-related criteria for noncompetitive personnel actions.

As part of the settlement, the court reserves jurisdiction for 4 years to ensure compliance with the settlement. In addition, the Library is required to review the results of its employment decisions quarterly and to provide plaintiffs' counsel with statistics demonstrating whether its selection procedures have resulted in disparate impact on African-Americans.

In light of the Court's opinion and settlement agreement, the Office of the Librarian and the Human Resources Service Unit has placed much emphasis on establishing a new competitive selection process that is consistent with the Court's requirements of compliance with the EEOC's *Uniform Guidelines for Selection Procedures*. Booz-Allen assessed the Library's revised competitive selection process with the following objectives:

- Determine the length and reasonableness of time required for selection of new employees, with reasonableness determined somewhat by customer (manager) satisfaction
- Determine whether changes in the hiring and promotion procedures as a result of the Cook case address the inequalities that caused the settlement.

The findings, detailed below, address the competitive selection process in relation to these objectives.

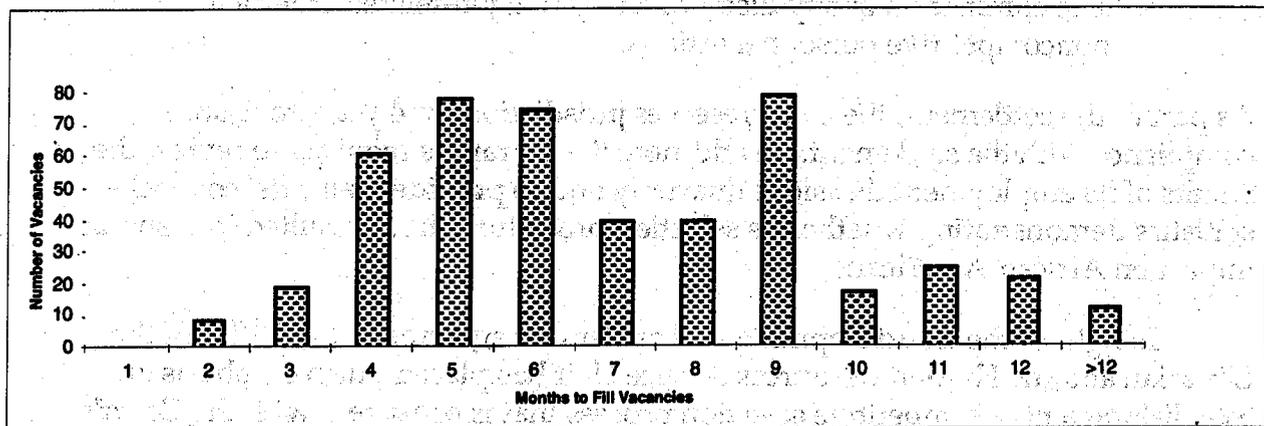
4.2.1 Competitive Selection Process Findings

Booz-Allen reviewed the competitive selection process (CSP) in relation to the requirements of the Cook Settlement and the *Uniform Guidelines* and against good management practice. The findings, presented below, highlight our evaluation of the CSP against those requirements and standards.

1. **The lengthy competitive selection process inhibits the Library's ability to recruit efficiently; however, at this time changes are impeded by the Cook Settlement Agreement.**

The CSP, developed prior to and made part of the Cook Settlement, has been described as lengthy and cumbersome by HRS staff, Library staff and OPM. Exhibit 4-6 shows the time required to fill all vacancies posted between FY 1993 and FY 1995.

EXHIBIT 4-6
Time Required To Fill Vacancies Posted Between FY93 and FY95



The median number of calendar days to fill vacancies is 177 days. Few vacancies (6 percent) were filled between 1 and 3 months. Most of the vacancies (78 percent) were filled within 4 to 9 months. Some vacancies (16 percent) were filled in 10 months or more. An HRS staff member indicated that some positions are left open because of an ongoing need (e.g., deck attendants); those vacancies were included in the data and were not readily identifiable but are likely represented in the 12 months and above category. Additionally, the HRS staff member noted that different types of positions take different amounts of time. For example, senior-level positions often take longer to fill than more junior-level positions because recruitment is done over a broader area (often nationally) and schedules of senior hiring officials and applicants are difficult to arrange. Because the vacancy data does not identify job type, the calculations cannot distinguish between the types of jobs.

In comparing the Library's time to hire to three selected agencies, the Library takes longer to hire. Exhibit 4-7 highlights other agency estimates of time to hire employees.⁸

**EXHIBIT 4-7
Length of Time to Hire for Other Agencies**

Agency	Calendar Days
U.S. Government Printing Office	42-56
National Archives and Records Administration	30-60
National Aeronautics and Space Administration	60-120

Participants in employee satisfaction focus groups reiterated the cumbersome and time consuming nature of the selection process. The participants cited such problems as:

- Unreasonable times for hiring within the Library (over 18 months to 4 years). Managers and Administrative Officers noted that the process should take 120 days at a maximum
- A cumbersome job analysis⁹ process that is confusing, lengthy, and difficult to understand
- Lack of standardized recruitment plan
- Need for more training for those involved in the process (e.g., subject matter expert (SME) panel training)
- Poor applicant tracking system.

External factors and mechanics of the process also add to the delays such as:

- Difficulty of scheduling SMEs (internal and external to the Library) for job analysis and rating panels
- Use of only one selecting official per position to interview candidates, when there are often many candidates to interview

⁸ The "Improve Competitive Selection Now!" task force surveyed three other agencies to determine their estimates of time it takes to hire new staff.

⁹ Job analyses provide the primary basis for defining the contents of a job.

- Delay by contractors in reporting job analysis results
- Inefficiency of doing job analysis for individual positions or groups of positions for each posting
- Rating panel cut-offs (natural break) results in large number of interviews¹⁰ (e.g., in FY 1995, an average of 61 interviews were conducted for nonprofessional jobs in Copyright Services and an average of 23 interviews were conducted for nonprofessional jobs in Constituent Services)
- Vague vacancy announcements are not job-specific and can cause those who should self-select out of the position to apply. This has been a long standing problem within the Library
- Large number of steps (over 30) with several hand-offs (see Exhibit 4-8).

Having a lengthy and cumbersome selection process inhibits the Library from efficiently hiring qualified employees. In the long run, this inefficiency has and will have negative effects including:

- Potential loss of highly qualified candidates to other jobs
- Lack of trust in the system
- Added costs of contractors and internal staff time
- Inability to handle changes to recruitment and selection requirements resulting from innovations in technology, changes to the Library mission, or sizable staff turnover.

The fact that the CSP is a part of the Cook Settlement requires the Library to perform the actions outlined in the Settlement Agreement Appendix B. The Library, therefore, is limited in its ability to make adjustments or changes to the CSP. The Library has taken initiatives to improve the process within the limits of the Cook Settlement as described below.

¹⁰ The cut-off methods used for the rating panels (natural break or mid-point between highly qualified and qualified) have been criticized by OPM. It has suggested a more standardized approach to cut-offs (e.g., percentile, standard deviations from average, or quartiles). However, the cut-offs have been negotiated with the Library's unions and changing the current methods would be difficult.

2. **The Library is making progress in addressing problems with the competitive selection process¹¹; however, it has no in-house selection expert to provide oversight of the changes and the overall system.**

The Library has initiated some improvement strategies to address the length and inefficiencies of the CSP. For example, the "Improve Competitive Selection Process Now!" task group (formed in 1995) outlined several of the aforementioned problems surrounding the CSP and generated possible solutions to the problems in its report. The task force recommendations addressed six key areas:

- **Planning**—formulating hiring plans, operational strategies, assessing progress toward achieving agency goals
- **Decentralization**—decentralizing aspects of the process that do not sacrifice legal defensibility to the service units
- **Resources**—making the staffing function a higher priority with HRS and reallocating staff to this function
- **Technology**—automating to reduce operational inefficiencies and improve communications
- **Process**—streamlining the process by eliminating unnecessary steps
- **Development/Training**—training the HR staff to lessen reliance on external contractors.

The task force generated an implementation plan that provided dates for each of the recommendations to be initiated before the end of calendar year 1995. Conclusions cannot currently be made as to whether the changes have had an impact on the length or delays of the process because the changes were made late in 1995. Of the 26 recommendations outlined in the implementation plan, 23 have been initiated or fully implemented. The 3 remaining recommendations and the status of their implementation include:

¹¹ The Cook Settlement Agreement requires that the Library adhere to the CSP as is described in Appendix B of the Settlement Agreement. Any of the task force recommendations or other changes must be evaluated and approved by the Office of General Counsel to ensure they do not violate the requirements of the Cook Settlement Appendix B.

- Require annual hiring plans be submitted by each service unit: under discussion within HRS
- Collapse Level 2 and 3 Affirmative Action reviews and eliminate comparisons of applicant data against civilian labor force data: under discussion because of its potential impact on the Settlement Agreement
- Eliminate the need for contracting out some affirmative action reviews: initiated through the hiring of a full-time statistician; however, the Library still uses contractors.

Another Library initiative to address CSP problems is a contract with OPM applying the Microcomputer Assisted Rating System (MARS) process to Library technician jobs. MARS has many components conceptually in common with the procedure required in the Settlement Agreement. MARS is a computer-assisted job analysis and rating system that has been used by a number of Federal agencies. OPM and HRS staff have indicated that the MARS takes less time (60 days to make 39 selections for the Library Technician (1411) series) than the existing procedure because a) the job analysis segment is faster due to the use of generic job analyses and the current position description, b) fewer panels need convening since subject matter experts are required only for the review of the task inventory and the interview stage, and c) the computer performs the ratings for both minimum qualifications and the quality-ranking factors.

The Library has made other changes that should address the issues surrounding the CSP. In December 1995, HRS implemented the Posting and Applicant Tracking System (PATS) aimed at remedying the applicant tracking problem. Also, HRS has contracted with the OPM to do job analyses for entire series within the Library to speed up these analyses.

The Library's initiatives to make changes to the CSP seem to be targeted to correct the problem areas in the process. However, the Library does not have a selection expert dedicated to oversee the CSP and the changes being made to improve it. We found that within HRS several offices and staff are involved in different aspects of the process, but no one person is fully responsible for the system and its implementation, or for improvements to it. Without this expertise, this process could be implemented incorrectly.

3. The Library of Congress is in compliance with the requirements of the Cook Settlement Agreement and the *Uniform Guidelines*.

The Library currently does not have to implement all the requirements outlined in the Settlement Agreement because certain requirements are pending final Court Approval¹² (see Exhibit 4-9) and must await the disposition of five appeals to the Settlement Agreement. Only those requirements contained within the Settlement Agreement that were contingent upon Preliminary Court Approval¹³ (August 2, 1994) must be implemented at this time.

In accordance with the Settlement Agreement, the Library has developed Human Resource Directives and has revised its competitive selection process, which was incorporated as Appendix B of the Settlement Agreement. In addition, it has provided training to panel members, Human Resource personnel, and selecting officials on the competitive selection process and its core elements. OPM has been contracted to perform the disparate impact review; however, it has not begun pending Final Court Approval. And finally, documentation as outlined on the Settlement Agreement is being maintained within the PATS (which was started in December 1995) in the Personnel Office for the competitive selection process and within the Personnel and Payroll Database through the U.S. Department of Agriculture's National Finance Center (NFC) for the noncompetitive promotion information.

The Library's competitive selection written policy is consistent with the *Uniform Guidelines*. The Library has written policy describing each of the steps in the CSP. A written standard operating procedure for conducting job analyses is in existence. There is a general understanding that the competitive selection procedures must be based on job analysis and job analysis results linked to selection requirements. OPM reviewed the written competitive selection procedures and concluded that if the written policy and procedures were implemented as specified on paper, the Library would be in compliance with the *Uniform Guidelines*. OPM also noted that implementation of the selection procedures ultimately determines compliance with the *Uniform Guidelines*. By interviewing Human Resources specialists to determine the procedures they follow and by comparing their responses to policy requirements, Booz·Allen determined that practice meets policy.

¹² Final Court Approval is defined within the Settlement Agreement as "the date following the conduct of a Fairness Hearing and approval of this Agreement by the Court (signed by Judge Johnson September 22, 1995), on which any and all appeals from any objections to the Agreement have been dismissed, a final appellate decision upholding approval has been rendered, or the time for taking an appeal has expired without an appeal having been taken.

¹³ Preliminary Court Approval is defined in the Settlement Agreement as the date, following submission of the Agreement to the Court by the parties but prior to the conduct of a Fairness Hearing, on which the Court grants initial approval of the Agreement.

EXHIBIT 4-9

Review of the Components of the Settlement Agreement

Requirement	Effective Date	Current Status
Competitive selection process changes	Upon Preliminary Court Approval - 8/2/94	Implemented
Analysis of disparate impact of competitive selection process	Upon Final Court Approval - Start date unknown at this time	Not yet applicable
Ensuring all noncompetitive personnel actions are job related	Upon Final Court Approval - Start date unknown at this time	Not yet applicable
Providing training to all managers on EEO, changes to the competitive selection process and noncompetitive personnel actions, diversity, and unlawful stereotyping	Upon Final Court Approval - Start date unknown at this time	640 managers were trained on Diversity awareness - was included as part of the Library's "Diversity Management Plan."
Providing to all persons involved in the competitive selection process (Human Resources, panels, and selecting officials) training on the competitive selection process and the need for job-related promoting of diversity prior to participation	Upon Preliminary Court Approval - 8/2/94	Implemented
Meet with management no less than 2 times per year (class members, counsel, and Library)	Upon Final Court Approval - Start date unknown at this time -- applicable for 4 years.	Not yet applicable
Library management shall maintain and make available to Plaintiffs' Counsel quarterly reports for competitive selection process - Professional and Administrative positions	Upon Preliminary Court Approval - 8/2/94	Information being maintained; reporting requirement not applicable until 90 days after Final Court Approval.
Library management shall maintain and make available to Plaintiffs' Counsel quarterly reports for Promotions under the noncompetitive selection system	Upon Preliminary Court Approval - 8/2/94	Information being maintained; reporting requirement not applicable until 90 days after Final Court Approval.
Plaintiff class will receive \$8.5 million	Upon Final Court Approval - Start date unknown at this time	Not yet applicable
Library shall promote 40 class members	Effective within 90 days of Final Court Approval - Start date unknown at this time	Not yet applicable
Library shall reassign up to 10 class members	Upon Final Court Approval - Start date unknown at this time	Not yet applicable
OPM shall conduct a disparate impact review of the competitive selection process on African-Americans for professional and administrative positions	Upon Final Court Approval - Start date unknown at this time.	Not yet applicable
The Agreement will expire within 4 years.	Upon Final Court Approval - Unknown at this time	Not yet applicable

Requirement	Effective Date	Current Status
The Library shall disseminate a notice to potential Class Members of their rights under this agreement	Within 60 days After Preliminary Court Approval - 8/2/94	Implemented
Plaintiffs' Counsel (after consultation with Class Members) shall appoint a Plaintiffs' Committee of up to 13 members who by simple majority shall decide all issues of class membership and allocation or distribution of the relief provided in this Settlement Agreement.	Within 30 days after Preliminary Court Approval - 8/2/94	Implemented
All plaintiffs' decisions shall be subject to a Fairness Hearing	Upon Preliminary Court Approval - 8/2/94	Implemented
All attached appendixes are considered part of the agreement	Upon Preliminary Court Approval - 8/2/94	Implemented
30 days notice to be provided to the Library of any alleged violations of the terms of the Agreement	Upon Final Court Approval - Unknown at this time	Not yet applicable
The Agreement will satisfy all conditions of the Class Action	Upon Final Court Approval - Unknown at this time	Not yet applicable
No retaliation may be taken against any Class Member because of participation in this litigation	Upon Final Court Approval - Unknown at this time	Not yet applicable
Plaintiffs' Counsel may designate expert consultants to assist in policy review	Upon Final Court Approval - Unknown at this time	Not yet applicable
Library shall pay the Plaintiffs' Counsel up to \$15,000 in expenses per year	Upon Final Court Approval - Unknown at this time	Not yet applicable
Library will pay attorney fees	Upon Final Court Approval - Unknown at this time	Not yet applicable

Library personnel indicated that content validation was chosen as the Library's method for validation of the CSP. Therefore, in addition to the requirements of the Settlement Agreement, the *Uniform Guidelines* require that the Library maintain content validity documentation, which should include: employer location and date, purpose of the validity study, job analysis content and method, description of the selection procedure, relationship between selection procedure and the job, alternative procedures investigated, how procedure will be applied/used, steps taken to maintain accuracy and completeness, and a contact person for more information about the study. The Library maintains this documentation (e.g., copy of position description, copy of Affirmative Action recruitment plan, copies of all correspondence) in accordance with the *Uniform Guidelines*.

4. Lack of methodological soundness in existing Library studies makes it impossible to determine if there is adverse impact in Library employment decisions.

The Affirmative Action and Special Programs Office (AASPO) has conducted several studies on whether there are gender, race, or national origin (RNO) differences (known as adverse impact) in terms of library employment procedures. AASPO provided two studies (which were conducted in June 1993 and May 1994) that investigated whether adverse impact existed with four types of awards. The first covered the period from July 1, 1990 to October 6, 1991; the second covered the period from July 1, 1990 to June 30, 1993. Both studies compared protected groups in terms of percentage selections for each award and medians for award amount. It is not possible to conclude the presence of adverse impact in the Library awards system based on these studies for two reasons. The studies did not compute statistics testing the significance or probability of the observed differences. They also did not look at the potential impact of extraneous variables on awards. Number and amount of awards are frequently correlated with other variables such as type of job, grade level, and organizational unit; a conclusion of adverse impact requires accounting for these variables.

Two studies by the same division investigated the adverse impact of the CSP. These studies also have methodological shortcomings. They attempted to determine if there were differential rates of selection at three points in the CSP across multiple vacancy announcements. The studies applied the four-fifths rule¹⁴ and cited the Cook Settlement Agreement as to the appropriateness of this application. In reality, the Settlement Agreement states that after the four-fifths rule has been applied, a Multiple Pools Statistical Analysis¹⁵ must be done in order to draw accurate conclusions.

If the Library does not ensure that accurate analyses of adverse impact are performed, it is in jeopardy of not complying with the Cook Settlement Agreement. Additionally, the Library will not be able to adequately monitor the success of its hiring practice in meeting Affirmative Action and diversity goals. The PATS, recently installed in December 1995, collects data on the race and gender of applicants for each

¹⁴ The 4/5ths rule is used as an indicator of the disparate treatment/impact of a selection test. If the selection ratio of any group is less than 80% (4/5ths) of the selection ratio of the highest selected group, that selection procedure is considered to have disparate treatment/impact. For example, if the selection ratio for whites is 75% and the selection ratio for African-Americans is 50% — $50\%/75\%=67\%$ which is less than 80%. Therefore, the test is considered to have disparate treatment/impact.

¹⁵ The Multiple Pools Statistical Analysis is critical in drawing conclusions about adverse impact. A multiple pools statistical analysis is one which considers a sample of selections as a series of successive groups that may have a changing composition over time.

competitive selection vacancy announcement in terms of number of applicants, number of qualified applicants, number of better qualified applicants, number interviewed, and number selected. This database will facilitate conducting adverse impact analyses in the future.

4.2.2 Competitive Selection Process Recommendations

In our assessment, the CSP and its implementation has room for improvement. Our recommendations focus on improvements that will enhance the existing CSP and will place the Library in a better position for the future when the Cook Settlement period is over.

- 1. The Library should continue implementing its many competitive selection initiatives and should place an employee selection expert in an oversight role.**

The Library needs to place an expert with appropriate credentials in an oversight role of the CSP either as an employee or through a contract vehicle. As OPM noted, implementation is the key to compliance with the *Uniform Guidelines*. This expert could give direction to the process and ensure correct implementation of the job analysis procedures, rating panels, and interview process. The expert also could assist in demonstrating the similarities between MARS and the procedure outlined in the settlement agreement from different perspectives to help obtain approval of more generalized application. Improvements to the system could also be adequately monitored by a selection expert.

In addition, the Library should position itself now for when the Cook Settlement Agreement time period is over by continuing to follow up on recommendations for improvements in various studies/initiatives. The existing CSP could have major improvements once the Settlement requirements are no longer applicable. Use of this expert to plan for changes and to set up an innovative process would position the Library well for the future.

- 2. The Library needs to obtain the appropriate statistical expertise to determine if there is adverse impact in its employment decisions.**

Determining adverse impact is complex. The Library needs to obtain an appropriately trained person to perform or review all analyses of adverse impact and other personnel analyses. Based on shortcomings of the studies we evaluated, we believe the Library does not demonstrate adequate skills to perform these analyses. A qualified person understands statistics and workforce demography, and how adverse impact has been analyzed in court cases. This person should be familiar with issues related to the multiple pool versus the single pool issue and the variety of statistical procedures available. The Library should also evaluate the adequacy of the outstanding contracts that are investigating adverse impact.

4.3 PERSONNEL MANAGEMENT

In assessing the human resources function at the Library, we reviewed several processes to determine if policies and procedures reflect good management practices. Specific focus was placed on the following objectives:

- Determine employee satisfaction with human resources services and employee perceptions of management
- Evaluate the Library's use of fitness for duty examinations
- Determine the typical avenues used by employees and managers for complaints and adverse actions
- Evaluate performance management at the Library and equitability of personnel actions.

We have developed the following findings in relation to these objectives.

4.3.1 Personnel Management Findings

Several improvements are needed in the Library's personnel functions. In general, the Library has not given sufficient attention to workforce planning and policy maintenance, and employees reflect negative views of HRS personnel services. Each of these issues is explained in detail below.

- 1. Lack of attention to a static and aging workforce may result in the loss of crucial intellectual capital upon which the Library depends for its effectiveness.**

Employees at the Library have an average service there of 16.4 years and an average of 17.9 years of Federal service. In addition, the average age of the workforce is 46.4 years. Because of the workforce's longevity, the Library's major processes are heavily dependent upon deep, long-term intellectual capital resident in its current staff. The Library is nearing a time when it could lose a significant portion of its staff to retirement. The workforce that has been characterized by stability and long tenure is now significantly older. Estimates as of December 1995 indicate that approximately one-third of the Library workforce is eligible for optional or voluntary early retirement.¹⁶ Estimates for CRS are that by the year 2005, 50 percent of the workforce will be eligible for retirement, and by 2010 more than 70 percent will be eligible.¹⁷

¹⁶ "LC Employees Eligible for Optional or Early Out as of December 31, 1995," provided by the Human Resources Service Unit. Booz Allen calculated approximately 32 percent eligibility based on optional and voluntary early retirement and workforce of approximately 4,700, statement of James H. Billington, the Librarian of Congress, before the Subcommittee of Legislative Appropriations, Committee on

The long tenure of the workforce is both a strength and a weakness. For example, the legacy systems (e.g., Multi-Use MARC System) have been around for 20 years or more and require knowledge of how records are created and in-depth knowledge of the cataloging process itself in order to make changes. The current employees are very knowledgeable of the legacy systems, particularly with the complex code that has evolved over the many years of system service, but new employees will have difficulty learning those complexities because documentation of the systems is not up to date. In addition, people who were hired in the 1970s are experts in mainframes, which allowed for the separation and specification of individual skills. However, in today's Internet environment, different skills are needed.

This problem is further exemplified in relationship to the Library's core processes. The core processes require significant specialized skills because of the variations of media, languages, and sources of the Library's materials. Each variation requires a separate and distinct set of skills. For example, the Library processes collections in more than 400 languages and maintains staff with those language skills. These skills will be difficult to replace because of their specialized nature, decreasing applicant pools (particularly in foreign languages), and the decreasing budget available to hire new employees.

Another example is CRS, which houses a pool of experts on legislative matters, including legislative context and institutional memory of congressional precedent and experience. Loss of expertise will have a negative impact on the services to Congress and on the intellectual capital of the Library.

The Human Resources function at the Library also has some significant issues that will impede the Library's ability to maintain its intellectual capital. Coordinated training is not yet in place. The Human Resources personnel and processes are not equipped to handle changes to recruitment, training, or selection requirements that may result from innovations in technology, changes to the Library mission, or sizable staff turnover. The Human Resources services unit is also not able to strategically plan for workload and staffing requirements because of its poor coordination with, and lack of respect among, the Library service units. Ongoing problems in communications between managers and the unions inhibit their ability to plan together for future directions of the Library. And finally, the individual personnel functions, particularly the CSP and training functions, inhibit the Library's ability to bring on new staff members and get them trained quickly. This situation is evidenced by the fact that it

Appropriations, U.S. House of Representatives, Fiscal 1997 Budget Request, March 5, 1996 states that 27 percent of the workforce will be eligible for retirement in 2000.

¹⁷ Statement of Daniel Mulhollan, Director, Congressional Research Service, before the Subcommittee on Legislative Appropriations, Committee on Appropriations, U.S. House of Representatives, Fiscal 1997 Budget Request, March 5, 1996.

takes members 5 to 6 months on average to recruit and hire new employees and that training is not offered regularly. Failure to plan attrition and skills maintenance will inhibit the Library's ability to maintain the intellectual skills required for its mission in the future.

2. The Library has not completed initiatives to update its personnel policies and regulations.

In 1992, a Library task force undertook a detailed review of personnel regulations "to ensure that they are fair and equitable." Of the 157 Library of Congress Regulations (LCRs) dealing with Personnel (some of which were originally issued in the 1960s and 1970s), 96 were part of the review. The task force found that regulations needed updating for many reasons, including removal of dated language, elimination of content no longer reflecting current policy or practice, addition of content to increase the clarity of procedures, alteration to eliminate divisive policy or practices, and updating to reflect current organizational structure.

In the fall of 1995, the regulations were updated. Based on our review of the regulations, little evidence exists that significant changes to regulations have been made to address the recommendations of the task force.

The task force also noted the need to clarify the relationship between the different types of guiding documentation, such as Human Resources Directives, LCRs, Policy Memoranda, and Collective Bargaining Agreements. Having multiple outdated sources of guidance can be confusing to employees and may result in misapplication of personnel policies and regulations.

3. No standard application of the performance appraisal system is in place across the Library.

No centralized control of, or standards for, the performance appraisal system are in place; appraisal of performance depends on the activities of the individual service units. According to HRS staff, oversight of the performance appraisal system is assigned to the Directorate of Personnel. However, we could not identify anyone in the Directorate with this responsibility. A lack of certainty exists among Human Resources staff members about where the function resides. Multiple sources said that the person with the responsibility left the Library and no one new has been assigned the responsibility. Performance appraisal regulations cite an office that no longer exists as providing administrative oversight to the system. Additionally, no tracking system within HRS is available to determine how many people received ratings in any given year.

Focus group participants noted that:

- Many do not receive regular appraisals
- Ratings are often meaningless
- Those who have topped off in their grade feel that the performance appraisal provides little incentive
- Much subjectivity exists in the system
- Some managers are not willing to give outstanding ratings because of paperwork involved
- Managers are not held accountable for doing performance appraisals.

Managers specifically noted that it is difficult and time consuming to administer the performance appraisal system. Managers are given little guidance on how to perform appraisals and the Library has not provided systematic training on the performance appraisal system to supervisors.

The need for appraisal system improvement is a recurring theme in previous Library studies and task forces. The issues surrounding performance appraisals have been studied in both the Management and Planning Committee in 1988 and in the Arthur Young study in 1988. These reports cited numerous problems with the system, including lack of clear performance standards and the absence of career development and advancement discussions during performance reviews.

4. Library Position Classification and Management Office performs a number of essential activities but timeliness and control over outcomes are concerns.

Position classification across the Federal Government has received decreasing emphasis over the last 10 years. The Library's position classification activities reflect this trend; the number of classifiers in the Position Classification and Management Office has decreased from 14 to 6 since 1982. Office personnel do provide a number of essential services including:

- Certifying positions as part of the competitive selection system
- Reviewing position descriptions and conducting desk audits to determine a position's classification or to ascertain if it should be reclassified
- Counseling managers and supervisors on classification procedures.

The Office does not perform the maintenance reviews and surveys specified in position classification regulations necessary to ensure that all Library position descriptions are accurate. According to HR personnel staff, a general belief is held that position descriptions need increased maintenance to keep them up to date.

Library employees can request position reclassifications and can, if necessary, appeal the results. Participants in focus groups who have had positions reclassified are satisfied with the results, but they complain about the time required. Employees seeking reclassification cite that it has taken from 6 months to 1 year to reclassify a position. In the classification process the Chief of Classification assigns expected completion dates that are on average 2 weeks from assignment. Staff within the Classification Office indicated that the delays are predominantly explained by workload, staffing, and scheduling problems. Additionally, if the classification decision is appealed, the process can be delayed.

Staff of the Office express dissatisfaction because they cannot control the position classification system to the extent they believe professional classification requirements dictate. Staff members frequently feel forced to accept classification decisions made by consultants hired by the service units. Library regulations state that reorganization packages, which are reviewed by the classification specialists for their impact on job descriptions and job classifications, should be developed with the Office's involvement, but instead the Office receives the packages after they are developed when the office staff cannot adequately assess the impact on job descriptions and classifications. Staff believe a decision is needed about whether certain classification and position management activities belong in Human Resources or within the service units.

5. The use of fitness for duty examinations at the Library has led to criticism and mistrust.

The use of fitness-for-duty examinations¹⁸ (initially outlined in LCR 2018-2) by the Library has been widely criticized. Despite the fact that Congress curtailed the use of fitness-for-duty examinations in the Executive Branch agencies in the 1980s, the Library's policy and use of the examinations continued until 1995. Unions and employees made allegations about misuse of the examinations to handle problem employees. However, after examining the numbers of referrals made and the results of the referrals, there is little indication of any skewed distribution of referrals. Exhibit 4-10 shows the distribution of referrals for examinations that occurred from FY 1991 to FY 1995.

¹⁸ Fitness-for-duty examinations include both medical and psychological examinations to determine cause for performance and/or behavioral problems on the job. Determinations from the examinations include fit, not fit, fit/conditional or unfit/conditional. In both the fit/conditional and unfit/conditional determinations, the Library decides whether accommodations can be made on the job to allow the employee to continue to work.

EXHIBIT 4-10

Fitness for Duty Examinations, FY 1991-1995

Examinations Requested - 57		
Examinations Conducted/Not Conducted	Conducted	28
	Not conducted based on assessment of medical records	16
	Not conducted based on other actions	13
	Refused	5
	No action taken	5
	Enforced leave	1
	Removed	1
	Request withdrawn	1
Types of Examinations	Psychological/Substance Abuse	7
	Medical/Substance Abuse	3
	Psychological	24
	Medical/Psychological	6
	Medical	17
Service Units	Collections Services	24
	Constituent Services	22
	Copyright Office	1
	Congressional Research Service	6
	Cultural Affairs	1
	Law Library	1
	Office of the Librarian	2
Managers Requesting Examination	8 managers requested	2 examinations
	41 managers requested	1 examination
Grade	Wage Grade and Other Pay Plans	8
	GS 1-4	3
	GS-5-8	28
	GS 9-12	10
	GS 13-15	8
Race	American Indian	1
	Asian	1
	Black	28
	White	27
Gender	Female	25
	Male	32
Union	CREA	5
	AFSCME 2910	10
	AFSCME 2477	36
	Non-bargaining	6
Determinations of Exams Done	Fit	8
	Unfit/Conditional or Ft/Conditional	15
	Unfit	3
	No Determination (Medical Records Not Released)	2

Of the 57 examinations requested, only 28 were conducted, with the remaining 29 requests either not conducted because existing medical records could be used to make a fitness determination (16) or because of other employee or Library actions (5 employees refused the examinations, 5 employees had no action taken, 1 employee was placed on enforced leave, 1 employee was removed, and 1 supervisor withdrew the request).

Based on our discussions with the Medical Officer and our review of the data provided, there do not appear to be any trends indicating potential misuse or bias in the use of the referral process. Allegations that certain supervisors abused the use of the FFDs are not substantiated. Only eight managers in the Library requested more than one examination over the four fiscal years, and there is no indication that any one service unit is responsible for the bulk of the referrals. In fact, while both Collections Services and Constituent Services had the most referrals (24 and 22 respectively), they also have the most employees in the Library. In addition, in FY 1995, 9 white employees were referred and 4 African-American employees were referred, which represent only .004 percent and .002 percent of the Library populations of white and African-American employees in FY 1995, respectively. The 8 males and 6 females referred in FY 1995 represent .004 and .002 percent of the males and females at the Library respectively. Given that not even 1 percent of any of the groups was referred for exams, there is no indication of bias toward any group.

Exhibit 4-11 summarizes the actions taken by the Library as a result of, or in conjunction with, the examinations or referrals. In 18 cases where either examinations were done or medical records were used to make a conditional determination, accommodations were made for the employees to be able to maintain their jobs. In only three cases were employees found to be unfit without conditions, and in all three cases the Library worked to have them leave on disability or retirement. Fourteen of the 57 referrals resulted in adverse actions.

EXHIBIT 4-11
Library of Congress Actions on Referrals¹⁹, FY 1991-1995

Action Taken	Number
Job modifications made	5
Resolution agreements	3
Employee detailed to another job	3 ²⁰
Employee placed on forced leave/LWOP	8
Employee refused examination --Removed (3) --Downgraded (1) --Voluntary retirement/reassignment (1)	5
None	32

On November 3, 1995, the policy for nonbargaining unit staff was changed to reflect the general executive branch policy, including:

- Much more limited basis for directed examinations
- If a manager needs medical evidence in order to make a personnel decision, the Library may offer an examination to an employee
- Unless the Library offers an examination, it will be the employee's responsibility to provide medical evidence demonstrating a medical or psychological impairment to explain any noted performance deficiencies or misconduct
- There is no provision for a representative for the employee during the process
- Under circumstances where the Library may direct a medical examination (which does not disclose any medical reason to explain the behavior), then a psychiatric examination may be directed
- The procedure eliminates the opportunity for an employee to provide an alternative list of doctors.

¹⁹ Total number of actions is 56 because one referral was withdrawn by the manager.

²⁰ Only two of the persons detailed to other jobs also had accommodations made.

A similar policy change is being negotiated with the bargaining units. Until an agreement is reached with the unions on the new policy, there is a moratorium on the use of mandatory fitness-for-duty examinations.

This change in policy reflects what is typical of other government and private sector agencies. However, despite the policy change, potential exists for continued mistrust of the fitness-for-duty examination process because of its link to managers at the Library. While the policy change will probably reduce the criticism, the level of mistrust in the process is likely to remain unless the Library disconnects the employee assistance program from the Library management and supervisory structure.

6. Focus group participants view the Library as a professionally rewarding place to work but have mixed views concerning human resources services.

Focus group participants noted several positive aspects of their jobs. Specific examples of why the Library is a professionally rewarding place to work include:

- Dream job for librarians
- Unique jobs that would not be found at any other place of employment
- Use of language backgrounds
- Family atmosphere due to the tenure of the staff
- Prestige of providing services to scholars, congresspersons, and authors
- Several opportunities to learn.

However, focus group participants also discussed several issues/negative perceptions with HR services. Their perceptions are promulgated by several factors. Human Resources has been reorganized several times in the recent past, including organizing into a team approach in 1990 and back to a functional organization in 1995. In addition, the management of the HRS service unit has changed hands and structure several times. Turnover of HRS staff has been quite low. For example, of the 97 total employees within HRS, five employees left HRS, and three people were hired in the past year. This turnover mirrors the traditional attrition rates of 3 to 3.5 percent in the Library. Low turnover and lack of training within HRS suggests that little new expertise has been infused into the HRS workforce. The reorganizations and changes in management have likely been an influence on the fragmented service that has been provided to the service units. A final factor which has influenced the perception of the service provided to the Library staff is that HRS has historically been perceived as a low priority of the Librarian and management as a whole.

The perceptions and themes expressed by multiple participants in multiple employee satisfaction focus groups are described in Exhibit 4-12 below. The Employee Satisfaction survey that Booz-Allen & Hamilton is distributing and analyzing should help quantify these perceptions and provide further evidence of the attitudes of Library employees.

**EXHIBIT 4-12
Employee Perceptions of HRS Offices**

Office	Perception
Employment Office	<ul style="list-style-type: none"> • Selection procedures are lengthy and cumbersome • Information is not provided about the status of applications within the process
Classification	<ul style="list-style-type: none"> • Often pleased with results of reclassifications • Process for reclassifications is lengthy (from 6 months to 1 year)
Training and Development	<ul style="list-style-type: none"> • Not sure of the purpose and services of the office. Training is mainly provided at the service unit level • Have issue with training in general at the Library (see the Training section of this report for more detail)
Pay and Personnel Information (PPI)	<ul style="list-style-type: none"> • In general, pleased with payroll services. • Have had isolated problems with delays in processing changes in personnel status (e.g., name or address change and pay increases) • Some of the forms used with PPI are not user friendly
Equal Employment Opportunity and Dispute Resolutions (EEO/DR)	<ul style="list-style-type: none"> • The office provides useful services • Processes can take a long time • Concerned about confidentiality • Unsure of where the office's allegiance is—with management or the employees
Affirmative Action and Special Programs Office	<ul style="list-style-type: none"> • The special intern and tuition assistance programs have been viewed as a positive approach to promoting employees in dead-end on professional jobs • Implementation of the programs within the office has been sporadic and inconsistent
Employee Relations Office (ERO)	<ul style="list-style-type: none"> • People have had both good and bad experiences with the office • Concern about confidentiality • Several highly respected ERO staff have left - concerned that quality will not be as good • Some participants were unsure of what services ERO provides
Labor Relations	<ul style="list-style-type: none"> • Have received inconsistent guidance from different staff members • Many had no interactions with the office

Focus group participants also highlighted issues related to overall HR services including:

- Untimely services
- Inability to access HRS staff

- Lack of responsiveness
- Poor staff qualifications
- Little information about HRS services, processes, time frames, and points of contact
- No comprehensive employee handbook.

These perceptions as well as those noted surrounding the specific offices indicate that Library employees perceive HRS as providing poor customer service. These perceptions impact the level of satisfaction and trust that employees have with HRS.

4.3.2 Personnel Management Recommendations

The following recommendations offer improvement options and ideas for the Library to follow in addressing the findings noted above. Recommendations are made to address specific problem areas as well as global changes that could be made to offer the personnel services differently.

- 1. The Library needs to be more proactive in planning for, and developing, its future workforce.**

As the Library experiences a decreasing amount of resources and an increasing set of technologies to accomplish its mission, ingenuity, planning and strategy must come together. As budgets decrease and organizations lose expertise to retirement and downsizing initiatives, the Library should implement key initiatives such as succession planning to alleviate the threat that a loss in expertise may create. Some planning efforts that the Library should undertake include the following:

- Establish a mentoring system that encourages senior employees to share their expertise and to create a legacy of knowledge that will outlast their service.
- Establish future mission requirements and determine the skills gap between current and future skill requirements. This analysis should be used to plan the types of hires required to keep the Library expertise up to date with mission requirements.
- Ensure linkage of the training and career development programs to foster development of the correct skills for meeting anticipated career deficiencies as attrition occurs.
- Ensure that process and procedures are fully documented so that new employees can get up to speed quickly.

CRS is currently conducting planning to sustain its intellectual capital. By thorough planning of this nature, the Library can alleviate the potential pitfalls and costs of any extreme change in its workforce in the future.

2. The Library needs to update and simplify its policy and regulation system.

Having so many different sources of guiding documentation is confusing to employees, particularly when some of the content no longer reflects policy and/or practice. The Library needs to implement one system to handle all policy and regulations. Existing documents should be modified and simplified. The task force report provides a start, since they provided a detailed review of many LCRs and types of policy documentation.

3. The Library should ensure standard applications of the performance appraisal across the Library.

The Library has a clear idea of the problems and issues related to the performance appraisal system. The system has received much study, but there has been little follow-through of the recommendations. Performance appraisal systems need consolidation and standardization as much as possible. Supervisors need training in how to assess performance, set performance standards, give feedback, and provide career development guidance.

4. The Library should redefine the role of position classification and management.

It is unlikely that classification staffing will increase in the current environment. Therefore, the Position Classification and Management Office must redefine its role given existing staffing levels. The Office should continue providing position classification/reclassification review upon request, as well as certifying the accuracy of position descriptions that are part of the competitive selection system. These services need the consistent standards and objectivity only a centralized office can provide. These roles are particularly important given the Cook case. Other responsibilities such as oversight and maintenance of the system should reside in the service units. The Office should actively take on a training and consultative role to assist the service units. The Library should update regulations to reflect these changing roles and clearly communicate the changes to staff.

A change also is needed in position classification policy. Whenever it is determined that an accurate position description does not exist during a classification appeal, the Library should conduct a desk audit and base position classification decisions on current job duties.

5. The Library should ensure that the HR staff are qualified to perform their work.

The HRS staff has been criticized by other Library employees for unresponsiveness and seemingly poor qualifications. This has contributed to a poor reputation of HRS among the Library service units, which lessens its authority. HRS should conduct a full skills analysis of its HR staff against the requirements of the positions. The skills gap (i.e., the difference between staff skills and required job skills) will provide information about the types of skills HR should acquire through training, new hires, or outsourcing.

6. Federal Government demonstration projects may offer innovative ideas for some personnel processes.

Three demonstration projects sponsored by OPM may be applicable to the Library's personnel service issues. Two demonstration projects are targeted toward decreasing the amount of time required to hire new employees and one project is focused in part on improving labor-management relations:

- The United States Department of Agriculture (USDA) Examining/Selection Process—The USDA project uses job-related criteria to develop a "quality group" of eligible candidates rather than numerical rating and ranking of candidates. This project has led to improved satisfaction of site managers and decreased hiring times (from 136 and 96 days on average, to 88 and 78 days respectively) for both professional and administrative positions at one USDA site.
- The National Institute of Standards and Technology (NIST) Hiring Methods— NIST instituted the expansion of direct hire authority for professional and support occupations and the use of agency-based hiring for administrative and technical positions. Under the direct hiring procedure the average hiring time was 10 weeks compared to 18 weeks (based on 1991 results) under agency-based hiring procedures.
- The Pacer-Share Project, based at U.S. Air Force Sacramento Air Logistics Center and Defense Logistics Agency, Sacramento Specialized Distribution Site, McClellan Air Force Base, California, experimented with new methods of labor-management cooperation based in part on the participative management philosophy and total quality management principles of Dr. W. Edwards Deming. Although first year results were unimpressive, indications are that after the first year, labor and management had improved cooperation. This was the first personnel management demonstration project with major union involvement.

Given the relevance of these topics, and the piloting of these projects within Federal agencies, these projects may be helpful to the Library in providing options to consider

in the future. As is the case with all piloted projects, care must be taken by the Library to fully assess whether these projects carry any potential side effects that may be detrimental to the Library (e.g., one outcome of broadening direct-hire authority may be lack of control over diversity in the workplace). Although the warnings must be heeded, the Library can benefit from reviewing these projects since they are developed, supported, and tested with OPM approval.

However, as stated earlier in this report, the Library must be continuously aware of how any changes to its selection process impact on its compliance to the Cook Settlement Agreement. Once the Library is outside of the 4-year period of the Settlement, these options may be more attractive and may also be further tested in other Federal agencies.

4.4 HUMAN RESOURCES SERVICES DEPLOYMENT

The Human Resources function has been reorganized several times in the recent past. In early 1990, HRS established a team structure, with HR teams providing services to a single service unit. Recently, in September 1995, HRS reorganized to be more functionally oriented. Additionally, the management of the HRS service unit has changed incumbents and structure several times. For example, in June 1989 the Associate Librarian for Management was named the head of Library Management Services where Human Resources resided. In 1992, the Associate Librarian for Management was reassigned as Associate Librarian for Special Projects and an Acting Associate Librarian for Human Resources was assigned as part of the Library's management team. The incumbent was officially appointed Associate Librarian for Human Resources in August 1993 and currently remains in that position. However, the position was recently reassigned to report to the Associate Librarian for Support Services.

Because the organization of the HR function directly impacts the way that HR services are offered/provided and as part of our study of human resources, Booz-Allen evaluated the human resources organization for:

- Duplication of effort and inefficiencies
- Service delivery/deployment issues
- Centralization and decentralization of functions.

Our analysis of the Library's HR function in relation to these objectives is provided below.

4.4.1 Human Resource Services Deployment Findings

Booz-Allen has noted several findings in relation to the deployment of HR services at the Library. These findings focus on areas where improvements are needed.

1. The Library lacks an integrated approach to diversity.

The Library has three offices focused on diversity issues:

- Equal Employment Opportunity Complaints Office and Dispute Resolution Center (EEOCO/DRC)
- Affirmative Action and Special Programs Office (AASPO)
- Senior Advisor for Diversity within the Librarian's Office.

Three offices mean three diversity approaches:

- The EEOCO/DRC Office (specifically EEOCO) resolves disputes related to Title VII of the Civil Rights Act of 1964, including complaints and charges of discrimination based on race, color, religion, sex, national origin, age, or physical or mental disability. Dispute Resolution is an alternative process to resolve both discrimination complaints and other worksite problems through a more informal resolution process than EEO. The EEOCO/DRC Office counsels and trains Library staff on the laws and issues related to EEO.
- The Librarian established the AASPO in September 1992 "...to help carry out high-priority initiatives to ensure equal employment opportunity and promote understanding of the rich diversity of backgrounds represented in the Library work force." The AASPO develops policies, plans, and programs aimed at increasing the participation of underserved populations and conducts evaluations of the effectiveness of the Library's programs in meeting Affirmative Action goals.
- The Librarian created the Senior Advisor for Diversity position in October 1994 to be devoted to supporting his efforts in dealing with diversity issues at the Library. The position has recently been combined with the Chief of Staff position within the Office of the Librarian. As a result, the Chief of Staff will be devoted to both the day-to-day functions of the Library and to diversity issues.

In FY 1995, at the request of Congress, the Library analyzed the organizational and functional relationships between the Office of Affirmative Action and Special Programs, the Dispute Resolution Center, and the Equal Employment Opportunity Complaints Office with the purpose of eliminating possible overlap, duplication of effort, and conflict among these units. The Library reported that "AASPO's mission and functions are distinct from either EEOCO or DRC." AASPO sponsors intern and other education programs, conducts targeted recruitment, and reviews competitive selection actions. On the other hand, they found that "EEOCO and DRC are charged with resolving worksite problems." The Office of the Senior Advisor for Diversity was not included in the analysis.

Both in interviews and in focus groups, Library staff commented on a lack of integration among the efforts of the three offices. Employees believe that the EEOCO/DRC and AASPO should be moved outside the HRS and linked to the Senior Advisor for Diversity. A similar alignment was also suggested by the Management and Planning Committee in November 1988 as well as in the 1988 Arthur Young study of the Library. The studies suggested establishing an EEO office (AASPO did not exist then) that would function independently of all personnel and human resources functions. Employees at the Library noted that moving EEOCO/DR and AASPO would promote a more objective approach to the EEO and Affirmative Action issues for the Library.

Additional perceptions about diversity at the Library were provided in the employee satisfaction focus groups. These perceptions include:

- A positive change in hiring has provided a more diverse profile in some areas
- Management's commitment is not strong enough
- Minorities in management positions are seen as tokens and are not given the respect and credit they deserve
- The move of the Senior Advisor for Diversity to the Chief of Staff position seems to indicate that diversity is on the "back burner"
- The Multi-year Affirmative Action Plan has not been communicated to Library staff.²¹

The Library has made efforts at the top-management level to increase the focus of diversity. Senior level managers are accountable for efforts in EEO and Diversity on their performance appraisals. Additionally, the Senior Advisor for Diversity has developed a diversity plan that outlines specific actions to promote a commitment to diversity (e.g., communication to all levels about the Librarian's commitment to diversity, focus groups to address Cook Settlement issues). However, the division of diversity-related functions across three offices seems to have diluted the Library's approach to diversity and created a perception that diversity is not a major focus of the Library.

2. The offices of Human Resources are stove-piped, focusing on their individual office activities with little integration of functions.

Organizational divisions within the human resources service unit limit integration of functions and communication and create some duplications of effort. There is little cross communication or cross training with other offices. Although each office must serve specific functions, it is necessary for the offices to understand the entire HRS process in order to help serve the customer and provide seamless service.

For the most part, each office conducts unique functions. However, there is a lack of coordination of services. For example, counseling is provided by separate HRS offices (e.g., benefits counseling at Pay and Personnel Information (PPI), counseling on personal issues at the Employee Relations Office, workplace-issue counseling at DRC). Employees are able to choose the avenues they would like to resolve problems. Unfortunately, depending upon the office chosen, the employee may receive inconsistent information.

²¹ In the AASPO focus group, staff noted the Multi-Year Affirmative Action Plan was under review by a committee set up by the Librarian's Office and has not been finalized.

Both PPI and the Technical Services Group (TSG) of the Employment Office noted duplication of effort in processing personnel actions. The personnel action process has several hand-offs. One hand-off is between TSG and PPI. These two groups are required to record specific information to process the personnel actions. Both offices indicated that there is a duplication of effort in the processing and that quality problems occur because of this duplication. For example, the TSG ensures that regulations are sufficiently adhered to in personnel actions and sets pay while PPI processes the information provided by TSG. The two offices noted that each must follow up on the work done by the other, often having to do the work of the other. Because of concern about work quality, several checks and balances for processing personnel actions are required. The offices indicated that this function should be coordinated through one office, and that office should be held responsible for quality.

AASPO, the Employment Office, and the service units all participate in some recruitment activities (e.g., participation in conferences, recruitment fairs, and outreach). Focus group participants noted that none of the offices or service units coordinates their recruiting activities.

3. Failure to have standardized and coordinated approaches to HR services, either centralized or decentralized, can create additional cost and inconsistency in their application.

Although HRS is a centralized office, some human resources issues are dealt with in a decentralized manner at the service unit level. Some functions have been strategically decentralized because those activities may be best performed at the service unit level (e.g., recruitment plans developed at the service unit level, time and attendance reporting). Even though these activities are housed at the service unit level, it is the responsibility of HRS to provide guidance and oversight of HR activities that are decentralized. Focus groups with the HR offices identified some areas where guidance and training are given (e.g., time and attendance) and other areas where little guidance is given (e.g., development of recruitment plans). In a group interview, several administrative officers who deal with human resources issues said that little guidance is given.

Some decentralization of functions has simply evolved over time. Three specific areas that HR staff noted with concern were training, outsourcing of HR functions (e.g., classification, staffing), and labor management relations. In interviews and in focus groups, Library staff indicated that most technical training is provided at the service unit level. The current Staff Training and Development Office noted that it has little control over training performed at the service unit levels. The Training and Development Office noted with concern that much of the training conducted by contractors could be offered in-house for less money. Additionally, some training provided could be useful across the service units but is only provided in isolated areas. These concerns are described in more detail in the Training section of this report.

Besides contracting for training services, the service units have used contractors for other HR-related activities. For example, the Classification Office noted that service units will sometimes use outside assistance to classify positions. The service unit will then forward the report with the classification request to ensure that the position is classified the same way. The Classification Office feels that the service units are influencing the way they do business and believes that it impacts their credibility. Service units also obtain their own contractors to do job analyses for the hiring process. HRS focus group participants noted concern that when the service units contract out functions without consulting HRS, they have no control over the processes and lose credibility with the service units.

Finally, in the focus group with the Labor Relations Office, participants noted that managers at the service unit level often do not consider labor relations in their decision making. Managers at all levels have been known to participate in bargaining that can conflict with decisions or contracts at the Library. These attempts at bargaining may also lead to further implications and set new precedents that could have a negative impact on the Library or other organizations. The Dispute Resolutions Office also participates in these types of bargaining agreements without the Labor Relations Office's involvement. If Labor Relations were kept informed, it could proactively stop or alter decisions that are likely to lead to labor relations disputes. This involvement could save the Library time and money and eliminate fallout from ill-advised decisions.

4.4.2 Human Resources Services Deployment Recommendations

Our findings highlighted several areas where coordination is necessary both within HRS and with the service units. Our recommendations focus on possible initiatives that could enhance the services deployed by HRS.

1. The Library should integrate and strengthen its diversity function.

The Library's history of racial tensions (as evidenced by the Cook Case) requires a strong diversity program that is integrated throughout the Library and that enlists HR processes in achieving its goals. The Library should consider several efforts to improve integration of the diversity program, including:

- Ensure the diversity plan and Affirmative Action plans are linked and are provided to managers for use in developing recruitment plans
- Integrate the functions into one office to organizationally tie them together and provide a united plan
- Continue extensive diversity training throughout the Library
- Develop plan for addressing any fallout from implementation of the Cook Case Settlement requirements (e.g., promotions and cash awards).

Each of these changes can help the Library to demonstrate its commitment to diversity and plan for ways to address issues if they should arise.

2. The Library should investigate alternative methods for providing HR services.

Historically, the human resources function at the Library has not worked well. As the Library moves into the future, it faces even more demands for efficiency and innovative solutions to personnel. Thus, it seems appropriate for the Library to consider some approaches to providing human resources support that have not been tried there before. Several options are being tried and tested in the marketplace today, including shared services,²² outsourcing, and interagency agreements. These options are being used by both private and public sector organizations as methods to improve operations and decrease costs. The Library should conduct best practices studies to investigate the options presented below for their applicability to the Library, their success rates, and key issues related to implementation of such options.

a. A shared services environment may reduce costs and provide an organizationally standardized approach to HR services.

Shared services requires that both the customer and the provider are jointly responsible for the results attained. Customers (i.e., the service units) and provider (i.e., HRS) must agree (formally through contract or informally through internal agreements) on the types of services needed and on the cost of those services. The focus of shared services is the pooling of like activities to reduce costs and enhance service. While the human resources functions are already organizationally centralized at the Library and service all the service units, doubt exists whether the functions are truly implemented in a centralized manner. A shared service environment would allow the service units and human resources to work together through a service commitment. Shared services would thus enhance customer satisfaction and provide cost effectiveness by offering economies of scale. Best practices information shows that moving to a shared services environment results in a 15-30 percent improvement in overall service costs.²³ Although this savings may be less for the Library's HRS since it is already organizationally centralized, savings could be realized in decreasing duplication of functions in the service units.

²² Shared services is defined as the leveraging of delivery of needed services so as to enhance both internal customer satisfaction and provider cost effectiveness by providing only needed and agreed upon services at the "right" levels to internal customers and achieving performance standards acceptable to internal customers and providers.

²³ "Review of Shared Services", proprietary briefing of Booz-Allen and Hamilton Inc.

- b. **The Library should use outsourcing as an alternative to its present method of providing some human resources services.**

Outsourcing is an alternative way to offer personnel and human resources services. A benchmarking study of outsourcing HR functions that are outsourced most frequently identified training and development, administrative services, benefits administration, outplacement, employee opinion survey, and relocation services. Common reasons for outsourcing include reduction of costs, reduction of staff, buying external expertise, narrowing down core functions, and improving quality. To date, the Library has outsourced some training, its pay and personnel data function, and portions of its selection process (i.e., job analysis, affirmative action reviews, calculation of disparate impact, minimum qualifications reviews, and job postings). Interagency agreements provide a method through which outsourcing can occur. The Library's agreement with the Department of Agriculture is the basis for the pay and personnel information system function. Agreements with OPM have been used to conduct job analyses, training, and oversight reviews. These agreements provide potentially less expensive options by the sharing of services across Federal agencies (similar to shared services above).

Many employee relations firms offer cost-per-employee services in a confidential setting. Because this function is used sporadically, and because of the need for confidentiality, it is an excellent candidate for outsourcing and cost reduction.

The Library could also outsource the majority of the personnel functions and reduce HRS to a policy and selection shop, maintaining functions that must be controlled internally within government agencies. This would allow the Library to invest its resources in overall management of the HR function rather than the day-to-day processing of human resources and personnel services.

If the Library decides to investigate outsourcing, it must be cautious about staying in compliance with the Cook Settlement Agreement. The Settlement Agreement provided promotions and specific positions to some employees, although only a few within Human Resources. If any of those employees occupy outsourced functions, they must be assigned to jobs of the same grade elsewhere in the Library. It may be difficult to match employee skills to other Library positions. The Library could be charged with retaliation if RIFs resulting from outsourcing appeared to target Cook plaintiffs. In addition, the Library should conduct a full cost-benefit analysis prior to outsourcing any function, to ensure cost-effectiveness.

4.5 TRAINING

The Library's mission and supporting goals depend on its human resources. Whether the mission is to serve the Congress, the nation, or the world, its ultimate achievement rests with the quality of the people who work toward that achievement. The Library traditionally has depended on a highly qualified staff who have come to the Library with the requisite knowledge, skills, and ability to do their jobs.

But the staff of the Library is changing. The potentially large number of staff retirements at the Library over the next decade means that much of its intellectual capital could disappear. Further, because of the changing nature of technology and the new ways that work will be performed, new staff will need specialized training that they may not possess when they are hired. These conditions make it imperative that the Library's training function is able to meet these demands.

The focus of our review centered around the following four objectives:

- Evaluate the strategic role of training
- Evaluate the training policies/procedures to determine availability of structured career paths, accountability of managers for employee development, and mandatory training policies
- Review the training budget with specific focus on how training is funded and the method for allocating and tracking training expenditures
- Evaluate the course planning and implementation process, including needs assessment methods, relationship of course content to training needs, frequency of course offerings, course administration and tracking, training delivery methods, and evaluation methods.

Booz·Allen's training management assessment revealed the following significant findings and conclusions.

4.5.1 Training Findings

We began our study of the training and development system within the Library by examining key reports of previous studies that have addressed the effectiveness of training provided by the Staff Training and Development Office and by the service units. One basic theme emerged from the studies: for at least the last 8 years, the

centralized training function has not played a key role in providing direction for staff development within the Library. Further, as the report of our findings will show, little has been done to implement the many recommendations from previous studies. The Library's training function today looks very much as it is described in the previous studies. Little has been done to improve the training processes and procedures in the Library.

1. The Library has not integrated the training and development of its staff into its strategy for fulfilling its missions or supporting goals.

What is valued in an organization is highly visible and clearly tied to the strategic plans for achieving the organization's mission and supporting goals. This is true of staff development in organizations that are models of "best practices" in their training and development systems. In such organizations, training is seen as important as a business strategy, and the training function has high visibility. We found this is not the case with the centralized training function in the Library, nor is it true of the training offered in the three service units we studied.

Several findings support this conclusion. One is the location of the Staff Training and Development Office in the organizational structure of the Library. As the organizational chart shows (see Exhibit 4-1 at the beginning of this section), the Office is buried deeply within the Directorate of Personnel, under the Associate Librarian for Human Resources Services. With the exception of technical training being conducted within Library Services (described later in this section), training likewise is not a highly visible function in the service units that we studied.

The position of the Staff Training and Development Office has made it vulnerable to various reorganizations and shifts in staff numbers and capabilities over the last 7 years. The Office had no staff from 1989 to 1993, during which time all training functions were decentralized to the service unit level and the staff members were dispersed throughout the Human Resources Directorate. In March 1993, the Library reinstated the Staff Training and Development Office. An acting chief served for 18 months from October 1993 to April 1995. Since that time the position of Chief of the Staff Training and Development Office has been vacant. A Chief Training Officer has recently been named.

Another indication of the importance of training and development to the achievement of organizational goals is the presence of a strategic plan for training. Best practices organizations are as likely to have strategic plans for the training organization as they are to have overall strategic plans. In contrast, we were unable to locate a

strategic plan for Library-wide training and development or for the training being offered by the service units. Without a strategic plan for staff development, the Library is unable to:

- Describe how staff development is integrated into the achievement of the mission of the Library
 - Ensure top management oversight of training and development
 - Integrate training and development managers into strategic planning
 - Ensure consistent quality and effectiveness of training needs assessment, design, development, delivery, evaluation, and tracking methods.
2. **The Staff Training and Development Office and the three service units we investigated lack the resources—monetary and human—to play a major role in the development of employees' skills to meet the Library's current and future needs.**

One good way to measure an organization's commitment to staff development is to look at the dollars allocated for training and development. Best practices industries report average total annual training expenditures of \$800-\$1,000 per employee. In 1992, OPM reported an average expenditure of \$760 per employee in midsize agencies (1,500 to 10,000 employees).²⁴ Using these figures as benchmarks, the funding for training within the Staff Training and Development Office and within the service units is inadequate to meet the staff development requirements of the Library.

The Staff Training and Development Office receives no funding beyond staff salaries. Training budgets are at the service unit levels. The following exhibit shows the appropriated dollar amounts obligated for training in the service units under study. The figures reveal a much lower – \$153.00 – per employee expenditure for training than industry or mid-size government agency averages. Even the highest figure calculated for dollars spent per employee for training in these service units – the \$292.00 per Constituent Services employee – falls short of the industry and government averages. A 1991 request to establish a training base of \$552.00 per Library employee was not funded.

²⁴ OPM, "Human Resource Development in the Federal Service," Fiscal Year 1992. (This was the last year data were compiled.)

EXHIBIT 4-13
Training Dollars Spent Per Library Employee, FY 1995

Office	Amount Obligated	Number of Employees	Calculated Average Expenditure
Collections Services		1437	\$92
Appropriated	\$125,575		
Non-appropriated	6,600		
Total	132,175		
Constituent Services		1248	\$292
Appropriated	\$284,276		
Non-appropriated	79,859		
Total	364,135		
Copyright Office		512	\$72
Appropriated	\$36,693		
Non-appropriated	---		
Total	36,693		
Congressional Research Service		751	\$96
Appropriated	\$72,271		
Non-appropriated	---		
Total	72,271		
Total	\$605,274	3948	\$153

Poor Library-wide training records maintenance and the lack of systematic methods for assessing training needs (see discussions of the training tracking system and the needs assessment process later in this section) make it impossible to determine whether the training dollars were spent on the training that employees most need to do their jobs. Interviews with Library managers and supervisors and focus group data indicate that most training dollars were spent on technical skills training within the service units.

In addition to our findings that funding for staff development is below industry and government averages, line managers, focus group participants and even staff members in the Staff Training and Development Office question the expertise of those

who oversee training (both within the Staff Training and Development Office and within the service units). Comments indicate that training staff lack the necessary background in design, development, and delivery of instruction to provide the leadership necessary to integrate staff development into the overall achievement of the missions of the Library.

3. The Staff Training and Development Office provides limited training opportunities for Library-wide staff development and limited support to the training activities of the service units.

The centralized training function should support Library-wide staff development and the offerings of the service units by fulfilling mandated training activities, providing cross-cutting and mandatory training, and tracking and reporting training activities Library-wide and within the service units. Information gathered from line managers, focus group participants, and the Staff Training and Development Office staff indicate that such support from the Office is weak.

The Library's implementing regulations are contained in LCR 2017-1.1, *Training Responsibilities and Procedures*, dated February 6, 1974 and LCR 2017-1.2, *Supervisory Training Program*, dated April 20, 1984. These regulations divide training responsibilities within the Library among the Training Officer and the service units. The regulations detail the Staff Training and Development Office's duties and responsibilities for providing a variety of training and administrative functions. Exhibit 4-14 outlines the responsibilities of the Office and the degree to which line managers and focus group participants estimate that the Office fulfills these responsibilities.

**EXHIBIT 4-14
Staff Training & Development Office Tasks**

Tasks from LCR 2017-1, Staff Training and Employee Development Policies in the Library of Congress:	Estimated Level of Fulfillment from Staff Training & Development Office
2017-1.1, Training Responsibilities and Procedures	
Assemble, analyze, and merge service units training requirements (Section 2)	○
Propose training courses to meet the Library's needs (Section 2)	○
Prepare and recommend annual training budget to respond to the employees' developmental needs and mandatory needs (Section 2)	○
Review and approve proposed training courses (Section 2)	●
Approve proposed training facilities (Section 2)	●
Notify supervisors of training approvals (Section 2)	●
Provide advice, counsel, and assistance to employees and supervisors about the Library's training programs (Section 2)	○
Provide advice to employees about external educational and external training opportunities (Section 2)	◐
Review training nomination for accuracy and conformance with law and Library policy (Section 4)	●
Provide for the continuing evaluation of the results and effectiveness of training to ensure effective use of resources and competency of training sources (Section 7)	○
Prepare annual reports for OPM on the Library's training programs and plans for training for each fiscal year (Section 7)	◐
2017-1.2, Supervisory Training Program Responsibilities	
Plan, recommend, develop, conduct and evaluate supervisory training courses that meet the requirements of LCR 2017 (Section 4)	◐
Schedule supervisory training courses on a regular basis (Section 4)	◐
Advise and counsel managers and supervisors concerning various aspects of supervisory training needs and opportunities (Section 4)	○
Maintain records which reflect the amount and kind of supervisory training individuals have completed in the Library	○
Level of Fulfillment: ●-High ◐-Medium ○-Low	

As the exhibit shows, the Staff Training and Development Office functions primarily for the reviewing and processing of management-approved training request forms, and for coordinating and providing logistical support for courses available through the Office. Each staff member is also responsible for coordinating, scheduling, and tracking a certain number of the courses listed as offerings in the course catalog.

Line managers and focus group participants indicated that the Staff Training and Development Office offers and/or sponsors a very small number of courses. Information from the staff of the office confirms that the office provides little training. Exhibit 4-15 lists the courses offered in the 1995 Staff Training and Development Office FY 95 Course Catalog. The catalog listed 49 classes in the four broad categories of Supervisory Institute, LC Specific, Career Development, and Personal Computer. These courses are almost all 1/2 to 1 day duration and classroom-based. The exhibit shows the listed frequency of course offerings and the number of times each course actually took place, according to information supplied by the Office staff. The total number of course hours offered through the office in FY 1995, as advertised in the catalog, was 348 (313 hours were actually run). For an organization of the Library's size, this is a small number of hours of training.

EXHIBIT 4-15
Staff Training and Development Office
Fiscal Year 1995 Course Offerings

Course Name	Frequency of Course Offerings	Actual Times Course Ran
SUPERVISORY INSTITUTE		
Dealing with Employee Problems	2	1
EEO for Supervisors/Managers	5	2
How to Make Training Pay Off	1	0
Introduction to Employee Assistance & Incentive Awards Program	4	0
Labor-Management Relations in the Federal Government	7	6
Managing Organizational Change	1	0
Managing Time & Attendance	7	7
Personnel Regulations & Relevant Contract Articles	6	6
Principles of Supervision	4	2
Sexual Harassment: A Federal Women's Program Briefing	7	3
Supervisor's Guide to Worker's Compensation	3	2
Time Management and Getting Things Done	4	2
Understanding the Americans with Disabilities Act of 1990	7	7
LC SPECIFIC		
Dispute Resolution Training	6	6
Introduction to PC-TARE	9	8
Property and Supply Management	4	3
Reference Collections in LC	3	3
Workshop on Travel	5	5

Course Name	Frequency of Course Offerings	Actual Times Course Ran
CAREER DEVELOPMENT		
Application for Employment	5	4
Communication Skills for Office Support Staff	2	0
Effective Briefing Techniques	2	1
English Grammar Review	3	3
Ergonomic Strategies for Computer Users	17	18
Fundamentals of Writing	4	2
Management Skill for Office Support Staff	2	0
Managing Stress Effectively	2	1
Mentoring in the Workplace	2	0
Personal Ergonomics Seminar	21	26
Retirement Seminars	3	5
Seminar Series	10	10
Time Management	1	1
Writing Techniques for Effective Letters and Memos	8	0
PERSONAL COMPUTER		
Advanced WordPerfect	12	12
Advanced LOTUS 1-2-3 and Other Spreadsheets	12	12
Advanced MS-DOS Commands	12	12
Banyan Vines Basics	12	12
Basic LOTUS 1-2-3 and Other Spreadsheets	12	12
Basic MS-DOS Commands	12	12
Beginning WordPerfect	12	12
Mainframe Connectivity-PROCOMM PLUS	12	12
Macintosh Basics	12	12
Overview of the Internet	4	7
Paradox	12	12
PC Backup, Recovery and Virus	12	12
PC Literacy	9	4
Scanner Techniques	12	12
TCP Connectivity-LC Mainframes	12	12
WP Fonts and HP LaserJet Printer Clinic	12	12

4. Library employees have negative perceptions of training within the Library.

Despite the pockets of good training practice that exist in some service units (e.g., automation training provided to employees in the Congressional Research Service and the Technical Processing and Automation Instruction Office (TPAIO)²⁵ in the Library Services Unit), the picture that emerges about training across the Library is that it is uneven in quality and availability.

Focus group participants and line managers expressed strong dissatisfaction with the training offerings, services, and practices of the Staff Training and Development Office and with Library training practices in general. Their generally negative comments about training opportunities reveal a training function in trouble. Some of the problems with the training provided through the Office include:

- Non-responsiveness to training suggestions; the Staff Training and Development Office neither asks for nor responds to training needs
- Frequent cancellation of course offerings, often without adequate warning
- Infrequent and uneven offering of mandatory training such as supervisory training, diversity awareness training, and sexual harassment training
- Ineffectiveness of training methods; for example, using lecture only in the sexual harassment course, without offering a chance for feedback and discussion from participants. Another example cited by a focus group participant was that the "Performance Appraisal for Supervisors" was the same for division chiefs and for supervisors who only supervise one or two people. The participant felt that the training should be tailored to meet their differing needs
- Inappropriate timing: For example, Internet training was given when participants were not using the Internet; Employee Orientation is offered after an employee has years on the job
- Inadequate guidance from management on training and development needs/activities

²⁵ The TPAIO provides an especially full and active training program, detailed in a comprehensive Annual Report of Training. The Office trained 2906 staff members (some staff members took more than one course) in Fiscal Year 1995, offering 299 sessions of 60 courses. The program covers instruction in a range of subjects: cataloging instruction, instructional techniques, language and culture instruction, mainframe computer skills training (including bibliographic workstation skills), microcomputer skills, preservation.

- Unavailability of structured career paths
- Inadequate advertisements of course offerings. According to line managers and focus group participants, the primary method for announcing courses is through *The Gazette*, the weekly Library newsletter
- Crucial training falls through the cracks. For example, in an interview the Inspector General reported that police officers felt their training was "minuscule."

There is little evidence of any written standards or guidelines for the systematic design and development of instruction, either within the Staff Training and Development Office or the service units we studied.

5. **There is no evidence that training content in the courses offered by the Staff Training and Development Office meets employees' on-the-job skill needs.**

No course catalog has been prepared for 1996. As Exhibit 4-15 shows, the courses that most frequently ran during 1995 were computer courses, Ergonomics, Retirement Seminar, and Understanding the Americans with Disabilities Act of 1990. The course catalog also provides information about a series of seminars on career development (10 2-hour seminars in the series) and video training resources (8 tapes on various subjects and 15 tapes on American Sign Language).

There are no indications as to how these particular courses came to be the core curriculum of the Library, representing the body of training that is available to Library employees. No evidence exists of any written consistent, systematic methods/practices for determining training needs, either in the centralized training function or in the training provided by the service units. Interviews with the Staff Training and Development Office employees and line managers and data from focus groups confirm that no systematic, Library-wide needs assessments have been conducted to ensure that the courses offered by the Staff Training and Development Office and the service units are in fact the courses Library employees need to do their jobs.

Further, we found no evidence of written policies or procedures that indicate methods are in place to hold managers/supervisors and training participants themselves accountable for transfer of learning to the job. Participants in focus groups indicated that managers and supervisors generally do not counsel staff on training needs or opportunities or discuss what has been learned in training. Participants generally felt that they are responsible for finding their own opportunities for training; in fact, they indicated that they often form informal training groups among themselves when the need for learning a new process or procedure arises.

Nor did we find any policies and procedures to measure the impact of training on improved job performance. We were unable to locate any written policies or procedures for tracking behavioral changes in employee performance after training or on tracking the value of training toward achieving the Library's mission and goals.

6. Mandatory training is offered sporadically and poorly tracked.

One important function of a centralized training office is the tracking of training organization-wide and within the individual units. The Library's performance in tracking training has been poor for years. Studies since 1990 have reported poor collection, monitoring, and reporting of training activities. Despite recommendations by these studies for improving the tracking of training, we found only minimal training records.

Currently, the Staff Training and Development Office uses the National Finance Center database to record training data; the service units all use different systems. According to one member of the office staff, the database generates individual training records as well as summary training reports. However, the staff member cautioned that the records were probably not reliable because of the way entries had been made in the database. The office provides very limited training reports to the service units about courses they do offer. During the course of this study, the only training report made available to us was the OPM-required Annual Report. We were unable to obtain any other reports of training activities from the office.

The lack of centralized training records makes it extremely difficult to track whether mandatory training for all employees, such as supervisory training, Diversity Awareness Training, or Sexual Harassment Training, has been conducted. Focus group participants and line managers expressed frustration with the lack of universal participation in mandatory training.

Library of Congress Regulations 2017-1.2 mandate that each new supervisor be required to take no fewer than 80 hours of formal supervisory training courses within 18 months of appointment to a supervisory position. Interviews with line managers and comments from focus group participants, as well as findings from previous studies indicate that this training has been offered sporadically over the last few years.

According to the 1993 Report of the Human Resources Working Group, a survey of all Library service units revealed that only two service units had ongoing supervisory training programs. The Report emphasized the seriousness of the lack of a Library-wide supervisory training and development program: [it] "...contributes to an atmosphere of divisiveness." When supervisors are unskilled in the fundamentals of supervision, personnel policies and practices are applied inconsistently and inequitably. Inconsistency among supervisory practices leads to a risk both of inequitable treatment of staff and of the perception of inequity, both of which contribute to an atmosphere of mistrust, hostility, divisiveness, and dysfunction. Management effectiveness and efficiency are dependent on the ability of supervisors to perform their duties skillfully and consistently. Supervisors need appropriate initial preparation in practical

processes and theoretical issues to be able to handle their jobs adequately. In addition, management is a dynamic process where new techniques are introduced regularly and where increased responsibility requires increased knowledge and more sophisticated skills."

4.5.2 Training Recommendations

To ensure that Library personnel are adequately prepared to meet current and future challenges, the Library must integrate staff development into the strategic planning process and ensure that processes are in place to make the training of its staff a strategic component for change. Following are our recommendations for making this happen.

1. **Strengthen the Staff Training and Development Office, making it more central and visible, thereby ensuring that staff development is of strategic importance in achieving the Library's missions and goals.**

This study and others that have preceded it reveal that the Staff Training and Development Office as it is currently configured cannot play a key role in helping the Library develop staff capability to meet current and future challenges. The effect of a largely decentralized training function such as now exists in the Library is that training opportunities are being duplicated or lost. A centralized training function would provide the direction and coordination necessary to ensure consistently high quality training and equitable opportunities for training. While it makes sense for other human resource functions to be outsourced, the same is not true for training and development; a centralized function is a necessity within the Library to meet the training needs of its highly specialized staff.

The recent "university initiative" headed by the Senior Advisor for Staff Development and Staff Transition has the potential to be the kind of centralized and visible training function that is needed within the Library. Initiated in the Fall of 1995, the stated goals of this initiative are to elevate training to a highly visible position in the Library and to put processes in place for achieving an excellent center for the development of Library staff.

2. **Designate resources and staff to the Staff Training and Development Office so that it can play a major role in developing needed skills in the Library's current workforce and be positioned to meet the challenges of developing future capabilities.**

Financial investment in training is the most unambiguous measure of its importance among an organization's competing priorities. Without adequate designation of funds and other resources, staff development will not be viewed as a priority. In order to function effectively, the centralized training function should be staffed by training and instructional design experts who play a highly visible role in integrating staff development with the strategic goals of the Library.

3. Improve the quality and expand the scope of methods for gathering information on employee training needs.

The centralized training function should assume a major role in gathering information on Library-wide employee training needs and in assisting service units to gather information on unit-specific training needs. Needs assessment information should be gathered from multiple sources, both internal and external, to provide valid data to drive training design, development, and delivery. Information should be gathered internally from top management, users, and succession plans. Information should be gathered externally by benchmarking best practices and studying trends that could impact the Library's achievement of its missions.

4. Develop methods to enhance and sustain the transfer of learning to on-the-job performance.

Transfer refers to the extent that learning from training activities is used on the job. Without formal mechanisms in place for ensuring transfer, the training function is rightly viewed as an expendable resource. Some ways to ensure transfer include:

- Hold managers and trainees themselves accountable for performance improvement as a result of training
- Integrate management into the planning and delivery of training
- Provide opportunities in training activities for realistic practice
- Build training into the job itself
- Integrate training with other elements of the human resource management system, such as selection and promotion.

5. Develop methods for evaluating the impact of training on job performance and organizational results.

The Library's centralized training function should establish a process for annual assessment of its own and the service units' effectiveness in achieving training goals in terms of access, impact, and cost-effectiveness. The evaluations should track the performance of the training function in such areas as:

- Amount of training delivered and supported on and off the job
- Results of training delivered
- Cost of training per program and employee
- Types of training methodologies/training providers.